APPENDIX 5

UPDATED BAT SURVEY REPORT

Planning and Environmental Consultants

Appendix 6-2 – Bat Survey Report (Amended)

Seskin Renewable Wind Farm



DOCUMENT DETAILS

Client:	**Seskin Renewable Energy Ltd**
Project Title:	**Seskin Renewable Wind Farm**
Project Number:	**231103**
Document Title:	**Bat Survey Report**
Document File Name:	**Appendix 6-2 Bat Survey Report – F – 2025.07.08 - 231103**
Prepared By:	**MKO** **Tuam Road** **Galway** **Ireland** **H91 VW84**

Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
01	Draft	19/05/2025	RC	AJ
02	Draft	27/06/2025	RC	AJ
03	Final	08/07/2025	RC	AJ
04	Final 2 (Amended)	13/07/2026	CM	AJ

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APPENDICES

Appendix 1 – Bat Habitat Suitability Appraisal

Appendix 2 – Site Risk Assessment

Appendix 3 – Overall Site Risk Assessment

1. INTRODUCTION

MKO was commissioned to complete a comprehensive assessment of the potential effects on bats, as part of an application for planning permission of a renewable energy development at Seskin and adjacent townlands, near Durrow in Co. Laois. This report provides details of the bat surveys undertaken, including survey design, methods and results, and the assessment of potential effects of the Proposed Development on bats. Where necessary, mitigation is prescribed to minimise any identified significant effects.

Bat surveys were undertaken throughout 2023, with additional emergence surveys completed during the bat activity season of 2024 and are consistent with the methodologies described in NatureScot 2021[1]. Bat surveys employed a combination of methods, including desktop study, habitat and landscape assessments, roost inspections, manual activity surveys and static detector surveys at ground level. Surveys in 2023 were based on an indicative turbine layout of 8 turbines.

The assessment and mitigation provided in this report has been designed in accordance with NatureScot 2021. Consideration was also given to the Northern Ireland Environment Agency (NIEA) Natural Environment Division (NED) Guidance[2], which was produced in August 2021 (amended March 2024).

As detailed in Section 1.1 in Chapter 1 of the EIAR, for the purposes of this Bat Report, the various project components are described and assessed using the following references:

- Where the 'Proposed Development' is referred to this encompasses the entirety of the project for the purposes of this EIA in accordance with the EIA Directive.
- Where the 'Proposed Wind Farm' is referred to, this refers to the wind turbines and associated foundations and hard-standing areas, meteorological mast, access roads, temporary construction compound, underground cabling, borrow pit, spoil management, site drainage, biodiversity enhancement, turbine delivery accommodation areas and all ancillary works and apparatus.
- Where the 'Proposed Grid Connection' is referred to, this refers to the 38kV onsite substation, associated temporary construction compound and 38kV underground cabling connecting to the existing Ballyragget 110kV substation, and all ancillary works and apparatus.
- Where the 'Site' is referred to, this relates to the primary study area for the EIAR, as delineated by the EIAR Site Boundary in green as shown on Figure 1-1, Chapter 1 of this EIAR and encompasses an area of approximately 302 hectares.

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

Seskin Renewable Energy Ltd. submitted applications to Kilkenny County Council (Kilkenny Pl. Ref.: 25/60418) and Laois County Council (Laois Pl. Ref.: 25/60414) on 9th July 2025 for permission to construct the proposed renewable energy development. On 2nd September 2025, both Kilkenny County Council and Laois County Council refused permission for the development. Seskin Renewable Energy Ltd. subsequently appealed this decision to An Coimisiún Pleanála on 29th September 2025 (ACP-323759-25).

On 18th May 2026, An Coimisiún Pleanála issued a Further Information Request seeking clarification on several items. A number of these items relate to biodiversity considerations addressed in the Biodiversity Chapter of the Environmental Impact Assessment Report (EIAR) submitted as part of the original application (Laois Pl. Ref.: 25/60414 and Kilkenny Pl. Ref: 25/60418).

To fully respond to this request and provide a comprehensive assessment of potential biodiversity impacts, the Biodiversity Chapter and Bat Survey Report have been updated accordingly. In this document, updates to the Bat Report are shown in green text, while deletions are indicated with red strikethrough text.

[1] *NatureScot published Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation. Version: August 2021 (NatureScot, 2021).*
[2] *Northern Ireland Environment Agency Natural Environment Division (NED) published Guidance on Bat Surveys, Assessment and Mitigation for Onshore Wind Turbine Developments in Northern Ireland (NIEA, 2021).*

1.1 Background

Wind energy provides a clean, sustainable alternative to fossil fuels in generating electricity. However, wind energy development can impact wildlife, directly through mortality and indirectly through disturbance and habitat loss. Bat fatalities have been reported at wind energy facilities around the world, raising concern about the cumulative impacts of such developments on bat populations (Arnett *et al.* 2016). No large-scale studies have been undertaken in Ireland to date. However, a study from the UK estimated bat fatalities at between 0 – 5.25 bats per turbine per month (Mathews *et al.* 2016). While these results are not directly applicable to Ireland due to differences in bat species and behaviour, Ireland shares more similarities with bat assemblages of Great Britain, when compared to those of mainland Europe.

Investigative research in North America and mainland Europe have revealed the mechanisms for bat mortality at wind turbines. Fatalities arise from direct collision with moving turbine blades (Horn *et al.* 2008, Cryand *et al.* 2014) and barotrauma (Baer Wald *et al.* 2008), i.e. internal injuries caused by air pressure changes. The reason why bats fly in the vicinity of wind turbines has been attributed to several different behavioural and environmental factors, e.g. habitat associations, weather conditions and, species ecology.

Pre-construction bat surveys are undertaken to provide a baseline to gain an insight into bat activity in the absence of turbines and to predict and mitigate against any potential future risks identified. This report primarily focuses on surveys conducted within the Site. The Proposed Grid Connection (including the underground cabling route) was assessed as part of the multidisciplinary survey effort detailed in Chapter 6. Further details of the bridge assessment along the Proposed Grid Connection underground cabling route are outlined below. Survey design and analyses of results at the Site were undertaken with reference to the latest policy and legislation, scientific literature and industry guidelines. Any spatial, temporal or behavioural factors that may put bats at risk were fully considered.

1.2 Bat Survey and Assessment Guidance

Several guidelines for surveying bats at wind energy developments have been produced in Europe, the UK and Ireland.

At a European level, the Advisory Committee to the EUROBATS Agreement, to which Ireland is a signatory, have produced Guidelines for Consideration of Bats in Wind Farm Projects which outlines an approach for assessing the potential impacts of wind turbines on bats during planning, construction and operation phases (Rodrigues, 2015). However, these guidelines are based on continental scenarios and include more diverse species and behaviours than those typical of Ireland. As such, EUROBATS guidance may recommend a level of survey that may prove inappropriate in Irish scenarios. Nevertheless, the guidance is evidence-based and provides a useful European context, within which Member States are encouraged to produce specific national guidance, focusing on local circumstances.

Bat Conservation Ireland produced Wind Turbine/Wind Farm Development Bat Survey Guidelines (BCI, 2012a). This document provides advice to practitioners and decision makers in Ireland on necessary qualifications for surveyors, health and safety considerations, pre-construction and post-construction survey methodologies and information to be included in a report. In the absence of comprehensive Irish research, these guidelines provide generalised methodology rather than detailed technical advice.

The second edition of the UK Bat Conservation Trust Bat Survey Good Practice Guidelines (Hundt, 2012) includes a chapter (Chapter 10) on survey methodologies for assessing the potential impacts of wind turbines on bats. The document provides technical guidance for consultants carrying out impact assessments. However, the recommendations are not based on any research findings specific to the UK. A third edition to the guidelines, published in early 2016, removed the chapter on surveying wind turbine developments. Prior to the publication of the BCT guidelines, Natural England's *Bat and Onshore Wind Turbines: Interim Guidance* provided an interpretation of the EUROBATS recommendations, as applied to onshore wind energy facilities in the UK (Natural England, 2014). In addition, the Chartered Institute of Ecology and Environmental Management (CIEEM) publishes advice on best practice as well as updates on the current state of knowledge in *the Technical Guidance Series* and in the quarterly publication *In Practice*.

In August 2021, NatureScot (formerly Scottish Natural Heritage), published *Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation* (NatureScot, 2021). The 2021 version supersedes the 2019 version of the guidance. The purpose of the guidance is to help planners, developers and ecological consultants to consider the potential effects of onshore wind energy developments on bats. The emphasis is on direct impacts such as collision mortality, but there is reference throughout to the need for a full impact assessment requiring wider consideration of other (indirect) effects. The Guidance replaces previous guidance on the subject; notably that published by Natural England and Chapter 10 of the Bat Conservation Trust publication, *Bat Surveys: Good Practice Guidelines (2nd edition),* (Hundt, 2012) and tailors the generic EUROBATS guidance on assessing the impact of wind turbines on European bats (Rodrigues *et al.* (2014)). The document guides the user through the key elements of survey, impact assessment and mitigation.

The NIEA (NED) recently published *Guidance on Bat Surveys, Assessment and Mitigation for Onshore Wind Turbine Developments in Northern Ireland.* This new guidance follows and builds upon the recently updated NatureScot 2021 guidance. The latter guidance has set the industry standard since its publication in 2019. The NED guidance does not aim to replace the NatureScot guidance, but it does provide additional clarifications and recommendations regarding survey requirements and impact assessment in an Irish context.

The survey scope and assessment provided in this report are in accordance with NatureScot 2021 Guidance. This guidance has set the industry standard for best practice surveys at wind farms since its initial publication in 2019.

1.3 Irish Bats: Legislation, Policy and Status

All Irish bats are protected under European legislation, namely the Habitats Directive (92/43/EEC). All Irish species are listed under Annex IV of the Directive, requiring strict protection for individuals, their breeding sites and resting places. The Lesser horseshoe bat (Rhinolophus hipposideros) is further listed under Annex II of the Directive, requiring the designation of conservation areas for the species. Under this Directive, Ireland is obliged to maintain the favourable conservation status of Annex-listed species. This Directive has been transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011).

In addition, Irish species are further protected by national legislation (Wildlife Acts 1976, as amended). Under this legislation, it is an offence to intentionally disturb, injure or kill a bat or disturb its roost. Any work at a roost site must be carried out with the agreement of the National Parks and Wildlife Service (NPWS) and a derogation licence must be granted before works commence.

The NPWS monitors the conservation status of European protected habitats and species and reports their findings to the European Commission every 6 years in the form of an Article 17 Report. The most recent report for the Republic of Ireland was submitted in 2025 ~~2019~~. Table 1-1 summarises the current conservation status of Irish bat species and identified threats to Irish bat populations.

Table 1-1 Irish Bat Species Conservation Status and Threats (NPWS, 2025 ~~2019~~). ~~Pressures and Threats are ranked from medium importance (M) to high importance (H) in the 2019 Article 17 report.~~ 'Influence' of pressures and threats are ranked from Low to High in the 2025 Article 17 report.

Bat Species	Conservation Status	Principal Pressures and Threats
Common pipistrelle *Pipistrellus pipistrellus*	Favourable	**PX04** No pressures or threats
Soprano pipistrelle *Pipistrellus pygmaeus*	Favourable	**PX04** No pressures or threats
Nathusius' pipistrelle *Pipistrellus nathusii*	Unknown	**PD01** Wind, wave and tidal power (including infrastructure)
Leisler's bat *Nyctalus leisleri*	Favourable	**PD01** Wind, wave and tidal power (including infrastructure) -*Low* **PF02** Construction or modification (e.g. of housing and settlements) in existing built-up areas - *Low*
Daubenton's bat *Myotis daubentoni*	Favourable	**PA22** Drainage for use as agricultural land - *Medium* **PF12** Residential, commercial and industrial activities and structures generating noise, light, heat or other forms of pollution - *Medium*

Bat Species	Conservation Status	Principal Pressures and Threats
Natterer's bat *Myotis nattereri*	Favourable	**PA04** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) - *Low* **PB09** Clear-cutting, removal of all trees - *Low* **PE01** Roads, paths, railroads and related infrastructure - *Low* **PF01** Conversion from other land uses to built-up areas - *Low* **PF02** Construction or modification (e.g. of housing and settlements) in existing built-up areas - *Low*
Whiskered bat *Myotis mystacinus*	Favourable	**PA04** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) - *Low* **PB09** Clear-cutting, removal of all trees - *Low* **PE01** Roads, paths, railroads and related infrastructure - *Low* **PF01** Conversion from other land uses to built-up areas - *Low* **PF02** Construction or modification (e.g. of housing and settlements) in existing built-up areas - *Low*
Brown long-eared bat *Plecotus auritus*	Favourable	**PX04** No pressures or threats
Lesser horseshoe bat *Rhinolophus hipposideros*	Inadequate	**PA04** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) - *Medium* **PA15** Use of other pest control methods in agriculture (excluding tillage) - *Medium* **PB09** Clear-cutting, removal of all trees - *Medium* **PE01** Roads, paths, railroads and related infrastructure - *Medium* **PF01** Conversion from other land uses to built-up areas - *Medium* **PF02** Construction or modification (e.g. of housing and settlements) in existing built-up areas - *Medium* **PF13** Drainage, land reclamation and conversion of wetlands, marshes, bogs, etc. for built-up areas - *Low* **PH04** Vandalism or arson (incl. human introduced wild fire) - *Low* **PJ01** Temperature changes and extremes due to climate change - *Low* **PM07** Natural processes without direct or indirect influence from human activities or climate change - *Low*

~~Bat Species~~	~~Conservation Status~~	~~Principal Pressures/Threats~~
~~Common pipistrelle *Pipistrellus pipistrellus*~~	~~Favourable~~	~~**A05** Removal of small landscape features for agricultural land parcel consolidation (M)~~ ~~**A14** Livestock farming (without grazing) [impact of anti-helminthic dosing on dung fauna] (M)~~ ~~**B09** Clear--cutting, removal of all trees (M)~~ ~~**F01** Conversion from other land uses to housing, settlement or recreational areas (M)~~ ~~**F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M)~~ ~~**F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M)~~ ~~**H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving) (M)~~ ~~**L06** Interspecific relations (competition, predation, parasitism, pathogens) (M)~~ ~~**M08** Flooding (natural processes)~~
~~Soprano pipistrelle *Pipistrellus pygmaeus*~~	~~Favourable~~	
~~Nathusius' pipistrelle *Pipistrellus nathusii*~~	~~Unknown~~	
~~Leisler's bat *Nyctalus leisleri*~~	~~Favourable~~	
~~Daubenton's bat *Myotis daubentoni*~~	~~Favourable~~	
~~Natterer's bat *Myotis nattereri*~~	~~Favourable~~	
~~Whiskered bat *Myotis mystacinus*~~	~~Favourable~~	
~~Brown long-eared bat *Plecotus auritus*~~	~~Favourable~~	
~~Lesser horseshoe bat *Rhinolophus hipposideros*~~	~~Inadequate~~	

~~Bat Species~~	~~Conservation Status~~	~~Principal Pressures/Threats~~
		~~D01 Wind, wave and tidal power, including infrastructure (M)~~

1.4 Bat Roosting Behaviour

Bats use a variety of natural and manmade structures as roosting or resting places. The type of roost and its level of use is determined by its function in the bat life cycle. Table 1-2 provides a summary of different types of bat roosts (Collins, 2023).

Table 1-2 Bat Roost Types and Definitions

Roost Type	Definition
Day	Where individuals or small groups, rest/shelter in the day but are rarely found by night in summer.
Night	Where bats rest/shelter at night but are rarely found in the day.
Feeding	Where individuals, or a few individuals, rest/feed for short periods during the night but are not present by day.
Transitional	Used by a few individuals for short periods of time prior to or following hibernation.
Maternity	Where females give birth and raise their young.
Hibernation	Where bats are found during winter (constant cool temperature and high humidity).
Satellite	An alternative roost found in close proximity to the main nursery colony used throughout the breeding season.
Swarming Site	Where large numbers gather in late summer to autumn. Important mating sites. Roosting may occur alongside swarming.
Mating Site	Where mating takes place in late summer to winter.

The likelihood of detecting active roosts is determined by the timing of the roost survey. In general:

- April surveys may detect transitional roosts used by bats following hibernation and prior to summer roosting.
- May-August surveys may detect maternity colonies and male/non-breeding female summer roosts.
- August surveys are best to determine maximum counts of adult and juvenile bats.
- August – October surveys may detect swarming and mating bats.
- September and October surveys may detect transitional roosts used by bats following the dispersal of maternity colonies and prior to hibernation.
- Day, night, feeding and satellite roosts may be found anytime between April and October.
- November – March surveys may detect hibernacula.

1.4.1 Bat Roost Significance

Whilst there are no clear Irish guidelines on assessing the significance of a roost, significance should be assessed at an appropriate spatial scale, based on species distribution, conservation status, current population trends, functionality of the site and the Zone of Influence (ZoI) of the project in question as it relates to bats (Reason and Wray, 2023). The significance of a bat roost is dependent on the rarity of the species using the roost and its function to the bat's life cycle, as outlined in Table 1-2 above. Table 3.2 of the CIEEM guidelines (adapted in Table 1-3) provides a starting point on the geographical assessment, which will rely on professional judgement and will be based on the baseline data collected and available information gathered during desktop studies.

Table 1-3 Roost importance at various geographic levels, adapted to Ireland from Table 3.2 of CIEEM guidelines (Reason and Wray, 2023)

Conservation status/ distribution	Individual or very small occasional/ transitional/ opportunistic roosts	Non-breeding day roosts (small numbers of species)	Mating sites, small numbers of hibernating bats	Larger transitional roosts	Hibernation sites	Autumn swarming sites	Maternity sites
Widespread all geographies	Site	Site	Site	Site/Local	Local/County [Larger hibernation sites rare in the UK]	Local/County [Very large pipistrelle swarming sites appear uncommon in the Ireland]	Unlikely to exceed Local/County importance unless colonies are atypically large; importance increased for assemblages.
Widespread in many geographies, but not as abundant in all	Site	Site	Site, dependent on local distribution [For *Myotis*, see swarming site column]	Local/County	Local/County importance dependent on size and number of species	County/National importance dependent on size; importance increased for larger sites that serve larger numbers/species	Unlikely to exceed County importance unless colonies are atypically large; importance increased for assemblages.
Rarer or restricted distribution	Site (very well-used night roosts may be of County importance for some species)	Site/Local/County, dependent on local distribution	Site/Local/County dependent on local distribution	Local/County	Local/County importance dependent on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages.
Rarest Annex II species and very rare	Site (very well-used night roosts may be of Local/County importance for some species)	Site/Local/County, dependent on local distribution	Site/ Local/County, dependent on local distribution	Local/County	County/Regional importance on size and local distribution; increased value for assemblages	County/National importance on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages

All the largest roosts of Lesser Horseshoe Bat (LHB) in Ireland are of international importance and it is anticipated that all large Leisler's bat roosts (>100) would also have international significance (NRA, 2006) due to the limited distribution of this species in other European countries. Table 1-4 provides some criteria

for determining the significance of different building roosts, as determined by the Bat Expert Panel of the Heritage Council in 2003 (NRA, 2006). Geographic criteria will be applied to these values.

Table 1-4 Level of Importance of Various Roosts in Ireland

Species	Indicator	Significance
Lesser horseshoe bat	Special Area of Conservation	Very significant
	If present	Significant
Whiskered bat	>10	Very significant
	If present	Significant
Natterer's bat	>10	Very significant
	If present	Significant
Daubenton's bat	Maternity roost	Significant
Leisler's bat	Maternity roost	Significant
Common pipistrelle	Maternity roost	Significant
Soprano pipistrelle	Maternity roost	Significant
Brown long-eared bat	Maternity roost	Significant

1.5 Statement of Authority

MKO employs a dedicated bat unit within its Ecology team, experienced in scoping, carrying out, and reporting on bat surveys, as well as producing impact assessments in relation to bats. MKO ecologists have relevant academic qualifications and are qualified in undertaking surveys to the levels required. MKO's Ecology team holds a bat derogation licence from NPWS. The licence is intended for professionals carrying out surveys with the potential to disturb roosting bats (i.e. roost inspections). Graduate and seasonal ecologist staff are included under the licence under condition of being accompanied by more experienced colleagues.

Survey scoping was prepared by Aoife Joyce. The daytime walkover survey and inspections were carried out by Ryan Connors and Laura Gránicz. Manual activity surveys were carried out by Ryan Connors, Laura Gránicz, Kate Greaney, Charlie Meehan, Cuan Feely and Cormac Roberts. Data manual ID was carried out by Ryan Connors. This report was also prepared by Ryan, amended by Clare Mifsud and was reviewed and approved by Aoife Joyce. Staff's roles, relevant ecological experience and training is presented in Table 1-5 below.

Table 1-5 Project team experience, qualifications and training.

Staff	Role	Training
Aoife Joyce (B.Sc., M.Sc., MCIEEM) 6 years'	Project Director	B.Sc. (Hons) Environmental Science, University of Galway, Ireland. M.Sc. (Hons) Agribioscience, University of Galway, Ireland. Advanced Bat Survey Techniques – Trapping, biometrics, handling (BCI), Bat Impacts and Mitigation (CIEEM), Bat Tree Roost Identification and Endoscope Training (BCI), Bats in Heritage Structures (BCI), Bats and Lighting (BCI), Kaleidoscope Pro Analysis (Wildlife Acoustics).
Clare Mifsud (PhD) 8 years'	Project Bat Ecologist	B.Sc. (Hons) Biology and Chemistry (Hons), University of Malta. M.Sc. Bat Ecology and Conservation, University of Malta. Ph.D. Bat Ecology, Genetics and Conservation, University of Malta. Bat Habitat Appraisal. Bat acoustic surveys (manual transects and statics deployment). Bat echolocation analysis and species identification (Kaleidoscope, Wildlife Acoustics). Roost survey techniques and winter bat hibernation census surveys (Wroclaw University, Poland). Preliminary Roost Assessments (PRA) - buildings and trees. Thermal Imaging for bat surveys. Bat capture, tissue sampling and handling techniques (University of Leeds, UK).
Laura Gránicz (B.Sc., MSc.) 6 years'	Project Ecologist	B.Sc. Biology, University of Szeged, Hungary. M.Sc. Biology, University of Pécs, Hungary. Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal), Advanced Bat Survey Techniques (BCI), Kaleidoscope Pro Analysis (Wildlife Acoustics).
Ryan Connors (B.Sc., M.Sc.) 2 years'	Bat Ecologist	B.Sc. (Hons) Zoology, University College Galway, Ireland. M.Sc. (Hons) Conservation Behaviour, Atlantic Technological University, Galway, Ireland. Surveying Trees for Bats (BRTS), Preliminary Ecological Appraisal (CIEEM), Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal), Kaleidoscope Pro Analysis (Internal), Winter Tree Identification (Internal), Wintering Bird Surveying (Internal).
Kate Greaney (B.Sc., M.Sc.) 2 years'	Ecologist	B.Sc. (Hons) Botany and Plant Science National university of Ireland, Galway, M.Sc. (Hons) Climate Change, Agriculture, and Food Security (MScCCAFS) National university of Ireland, Galway, Kaleidoscope Pro Analysis (Wildlife Acoustics). Endoscope Training (Internal), Emergence and Re-Entry Surveys (Internal) Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal)
Charlie Meehan (B.A., M.Sc.)	Seasonal Bat Ecologist	B.A. History and Classical Studies, National University of Ireland, Galway M.Sc., Sustainable Environments, National University of Ireland, Galway

		Kaleidoscope Pro Analysis (Wildlife Acoustics), Endoscope Training (Internal), Structure and Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal)
Cuan Feely (B.Sc.) **1 year**	Graduate Ecologist	BSc. (Hons) Environmental Science, University of Galway Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal)
Cormac Roberts	Student	Summer intern in the bat team Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal)

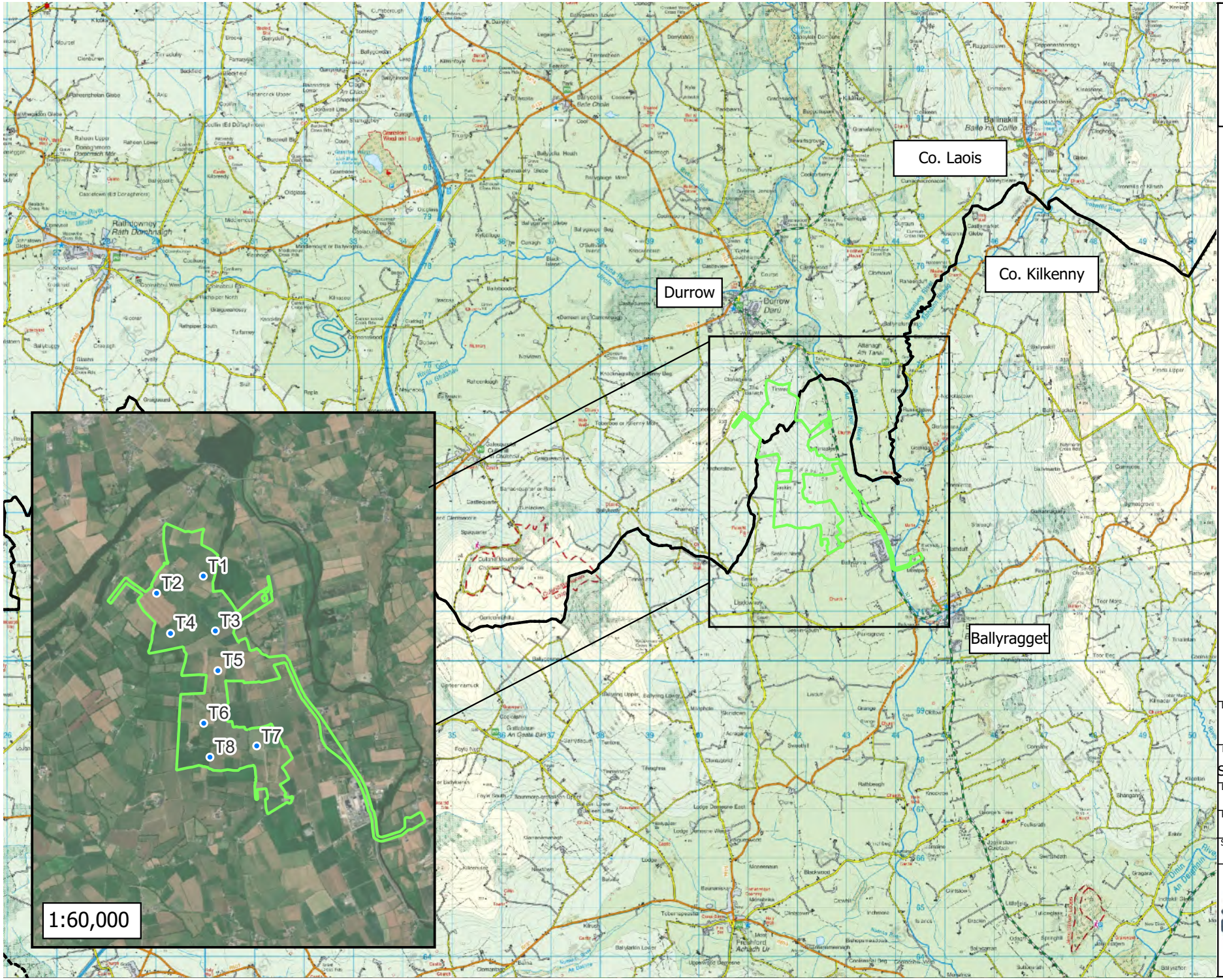
2. PROJECT DESCRIPTION

The core of the Proposed Wind Farm is located approximately 2.5 kilometres south of the town of Durrow, Co. Laois, 3.2 kilometres northwest of the town of Ballyragget, Co Kilkenny and 5.9 kilometres east of the village of Cullahill, Co. Laois. The N77 National Secondary Road runs in a north/south orientation, east of the Site. It is proposed to access the Proposed Development via an existing agricultural access off the L58333 local road, which in turn is accessed off the N77, on the eastern side of the Site. This existing access will be upgraded as part of the Proposed Development. The Site is served by a number of existing public and agricultural roads and tracks. The full description of the Proposed Development is provided in Section 4.1 of Chapter 4 of this EIAR.

The Proposed Grid Connection includes for underground 38kV electrical cabling from the proposed onsite 38kV substation, in the townland of Ballynaslee, Co. Kilkenny, to the existing Ballyragget 110kV substation in the townland of Moatpark, Co. Kilkenny. The total length of the Proposed Grid Connection underground cable route, measures approximately 3.4km in length with approximately 2.2km located within the public road corridor and approximately 1.2km located in agricultural lands. A full description of the Proposed Grid Connection is detailed in Section 4.3.2 of Chapter 4 of this EIAR.

Current land-use within the Proposed Wind Farm comprises agricultural pastural land. Current land-use along the Proposed Grid Connection route comprises of transport, and agricultural pastural land. Land-use in the wider vicinity of the Site comprises a mix of agriculture, low density residential, renewable energy and industrial and commercial.

The Proposed Development site location is shown on Figure 2-1.



Map Legend

EIAR Site Boundary

Proposed Turbine Locations

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Drawing Title

Site Location

Project Title

Seskin Renewables Wind Farm

Drawn By	Checked By
RC	AJ
Project No.	Drawing No.
231103	Figure 2-1
Scale	Date
1:100,000	2025-06-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie

3. METHODS

3.1 Consultation

A scoping exercise was undertaken as part of the EIAR for the Proposed Development. A Scoping Document, providing details of the application site and the Proposed Development, was prepared by MKO and circulated to consultees in May 2024. As part of this exercise, prominent Irish conservation groups were contacted, and Bat Conservation Ireland (BCI), and the Department of Housing, Local Government and Heritage-Development Applications Unit (NPWS) were specifically invited to comment on the potential of the Proposed Development to affect bats.

Details of consultation responses specifically related to bats are provided in Section 4.1 below.

3.2 Desk Study

A desk study of published material was undertaken prior to conducting field surveys. The aim was to provide context to the Proposed Development in order to assist bat survey planning and assessment. This included the identification of designated sites, species of interest or any other potential risk factors within the Site and the surrounding region. The results of the desk study including sources of information utilised are provided below.

3.2.1 Bat Records

The National Bat Database of Ireland holds records of bat observations received and maintained by BCI. These records include results of national monitoring schemes, roost records as well as ad-hoc observations. The most recent search examined bat presence and roost records within a 10km radius of a central point within the Site (Grid Ref: S 41976 74120) (BCI 2012, Hundt 2012, NatureScot, 2021). Available bat records were provided by Bat Conservation Ireland on 29th April 2025. Results from the National Biodiversity Data Centre were also reviewed for bat species present within the relevant 10km grid squares of the Site.

3.2.2 Bat Species' Range

EU member states are obliged to monitor the conservation status of natural habitats and species listed in the Annexes of the Habitats Directive. Under Article 17, they are required to report to the European Commission every six years. In August 2025 ~~April 2019~~, Ireland submitted the third assessment of conservation status for Annex-listed habitats and species, including all species of bats (NPWS, 2025 ~~2019~~).

The 2025 ~~2019~~ Article 17 Reports were reviewed for information on bat species' range and distribution in relation to the location of the Site. The aim was to identify any high-risk species at the edge of their range (NatureScot, 2021).

3.2.3 Designated Sites

The National Parks and Wildlife Service (NPWS) map viewer and website provides information on rare and protected species, sites designated for nature conservation and their conservation objectives. A search was undertaken of sites designated for the conservation of bats within a 10km radius of a central point of the Site (BCI 2012, Hundt, 2012, NatureScot, 2021). This included European designated sites, i.e. SACs, and nationally designated sites, i.e. NHAs and pNHAs.

3.2.4 Landscape Features

3.2.4.1 Ordnance Survey Mapping

Ordnance survey maps (OSI 1:5,000 and 1:50,000) and aerial photographs were reviewed to identify any habitats and features likely to be used by bats. Maps and images of the Site and general landscape were examined for suitable foraging or commuting habitats including woodlands and forestry, hedgerows, treelines and watercourses. In addition, any potential roost sites, such as buildings and bridges, were noted for further investigation.

3.2.4.2 Geological Survey Ireland

The Geological Survey Ireland (GSI) online mapping tool and University of Bristol Speleological Society (UBSS) Cave Database for the Republic of Ireland were consulted for any indication of natural subterranean bat sites, such as caves, within 10 km of the Site (BCI, 2012) (last searched on the 23rd April 2025). Furthermore, the archaeological database of national monuments was reviewed for any evidence of manmade underground structures, e.g. souterrains, that may be used by bats (last searched on the 23rd April 2025).

3.2.4.3 National Biodiversity Data Centre Bat Landscape Mapping

The National Biodiversity Data Centre (NBDC) map viewer presents "Bat Landscape" maps for individual species and for all species combined. Lundy *et al.* (2011) used Maximum Entropy Models to examine the relative importance of bat landscape and habitat associations in Ireland. The resulting map provides a 5-point scale, ranging from highest habitat suitability index (presented in red) to lowest suitability index (presented in green). However, squares highlighted as less favourable may still have local areas of abundance.

The location of the Site was reviewed in relation to bat habitat suitability indices. The aim of this was to assess habitat suitability for all bat species within the Site. It is worth noting that these results are based on a modelling exercise and not confirmed bat species records. Regardless, they may provide a useful indication of potential favourable bat associations within the Site.

3.2.4.4 Additional Projects in the Wider Landscape

A search was conducted to identify permitted, operational and proposed wind energy developments within 10km of the proposed turbine locations. (NatureScot, 2021). This search adhered to methodologies outlined in Chapter 2, Section 3.8. The Wind Energy Ireland (WEI) interactive wind map (windenergyireland.com) was reviewed in conjunction with wind farm planning applications from Kilkenny and Laois County Council. Other infrastructure developments and proposals (e.g. large road projects and extractive industries) were also noted. Information on the location and scale of these developments was gathered to inform cumulative effects. More details on other infrastructure developments within the vicinity of the Proposed Development can be found in Chapter 2 of the main EIAR.

3.2.5 Multidisciplinary Surveys

Multidisciplinary walkover surveys were undertaken throughout 2023, 2024 and 2025 with an additional visit in 2026. The Site was systematically and thoroughly walked in a ground-truthing exercise with the habitats on the Site assessed and classified. The habitats (including any culverts/bridges) were assessed for bat commuting, foraging and roosting suitability.

Multidisciplinary walkover surveys were undertaken on the following dates:

Table 3-1 Multidisciplinary Survey Effort

Multidisciplinary Survey	Dedicated Bat Survey
30th April 2024	17th May 2023
1st May 2024	1st June 2023
28th May 2024	28th June 2023
29th May 2024	27th July 2023
11th June 2024	14th September 2023
12th June 2024	11th October 2023
24th June 2024	30th May 2024
3rd July 2024	25th July 2024
4th July 2024	23rd September 2024
5th July 2024	26th June 2026
17th July 2024	
18th July 2024	
27th August 2024	
19th December 2024	

3.3 Field Surveys

3.3.1 Bat Habitat Suitability Appraisal

Bat walkover surveys were carried out throughout 2023 and 2024. During these surveys, habitats within the Site were assessed for their suitability to support roosting, foraging, and commuting bats. Connectivity with the wider landscape was also considered.

At the time of the 2023 surveys, assessments were initially carried out using the guidance outlined in Collins (2016). Following the release of Collins (2023) prior to the 2024 surveys, all 2023 survey data were reviewed and reassessed in line with the updated 2023 guidance to ensure consistency across the dataset. Suitability was assessed using the criteria set out in Collins (2023), which provides a grading protocol for roosting habitats and for commuting and foraging areas. Suitability categories are divided into *High*, *Moderate*, *Low*, *Negligible* & *None* and are described fully in **Appendix 1**.

3.3.2 Roost Surveys

Daytime Roost Inspections

A search for roosts was undertaken within 200m plus the rotor radius (i.e. 75m) of the proposed turbine locations. (NatureScot, 2021). The aim was to determine the presence of roosting bats and the need for further survey work or mitigation. The Site was visited in May, June, July, September and October 2023 and May, July and September of 2024. The watercourse crossing associated with the Proposed Grid Connection underground cabling route was assessed in December 2024. A walkover was carried out in search of any structures that could support roosting bats (see **Appendix 1** for criteria in assessing roosting habitats).

Three structures were identified as potential roost features within the Site (IG Ref: S 42041 73614, S 42171 74108, and S 42868 72354). These were subject to roost assessments involving detailed external inspections

and, where access was available, internal inspections to search for evidence of bat activity, including live and dead specimens, droppings, feeding remains, urine splashes, fur oil staining and noises. Additionally, one farm complex and five other structures located just outside the Site were identified and assessed externally for their suitability to support roosting bats. The locations of all identified PRFs are provided in Table 3-2.

There is one watercourse along the Proposed Grid Connection underground cabling route; however, no crossing infrastructure is present at this location. The location of the watercourse crossing is presented in Chapter 4 and Appendix 4-1 of this EIAR.

Any potential tree roosts identified within the Site were examined for the presence of rot holes, hazard beams, cracks and splits, partially detached bark, knot holes, gaps between overlapping branches and any other potential roost features (i.e. PRFs) identified by the Bat Tree Habitat Key (BTHK, 2018). Where accessible, an endoscope was used to inspect PRFs in more detail to assess their suitability for roosting bats.

Table 3-2 PRF locations within and around the Site

Structure	IG Ref	Distance to Site Boundary	Nearest turbine	Distance to nearest turbine
Derelict farmhouse and adjoining shed	S 42041 73614	0m	T5	300m
Archaeological stone structure	S 42171 74108	0m	T5	235m
Inhabited Farmhouse with adjoining sheds	S 40657 74435	0m	T7	735m
Farmhouse	S 40657 74435	500m	T2	750m
Farm sheds	S 40653 74453	480m	T2	730m
Stone ruin	S 40813 75109	400m	T2	530m
Stone ruin 2	S 40793 75073	390m	T2	530m
Farm shed 2	S 42881 73750	100m	T7	850m
Stone farm shed	S 42711 74392	300m	T3	710m
Ivy covered stone structure	S 41083 71556	1,225m	T8	1,545m

Emergence Surveys

Emergence surveys at dusk were carried out which focused on the PRFs identified during the habitat appraisal within the Site. During these surveys, surveyors were equipped with Bat Logger M bat detectors (Elekon AG, Lucerne, Switzerland). The emergence surveys commenced 15 minutes before sunset and concluded 90 minutes after sunset. Table 3-3 summarises survey effort in relation to emergence surveys. Where possible, species identification was made in the field and any other relevant information was also noted, e.g., numbers, behaviour, features used, etc. All bat echolocation was recorded for subsequent analysis to confirm species identifications.

Surveyors were located at PRFs identified during the daytime roost inspection surveys with a focus on potential access point and roosting features. The purpose was to identify any bat species, numbers, access points and roosting locations within the PRF structure. Surveys were carried out in favourable weather conditions.

Table 3-3 Survey Effort - Emergence Surveys 2023 & 2024

Date	Surveyors	Sunrise/ Sunset	PRF	Weather
2023				
17th May 2023	Laura Gránicz and Ryan Connors	21:23	Derelict farmhouse and adjoining shed	18-12°C, Dry, calm, moon not visible, cloud cover 100%
28th June 2023	Laura Gránicz and Ryan Connors	21:58	Derelict farmhouse and adjoining shed	17-14°C Dry, light breeze, moon 60%, cloud cover 20%
11th October 2023	Laura Gránicz and Ryan Connors	18:43	Farmhouse	10-11°C Dry, calm, moon not visible, cloud cover 100%
2024				
30th May 2024	Ryan Connors, Charlie Meehan and Cormac Roberts	21:42	Farmhouse and farm shed	12-10°C Dry, calm-light breeze, moon not visible, cloud cover 70-90%
25th July 2024	Ryan Connors, Cuan Feely and Cormac Roberts	21:33	Archaeological stone structure	15-13°C Dry, calm-light breeze, moon not visible, cloud cover 70-90%
23rd September 2024	Ryan Connors and Kate Greaney	19:24	Inhabited farmhouse & adjoining shed	14°C, Dry, calm, moon not visible, cloud cover 80-40%

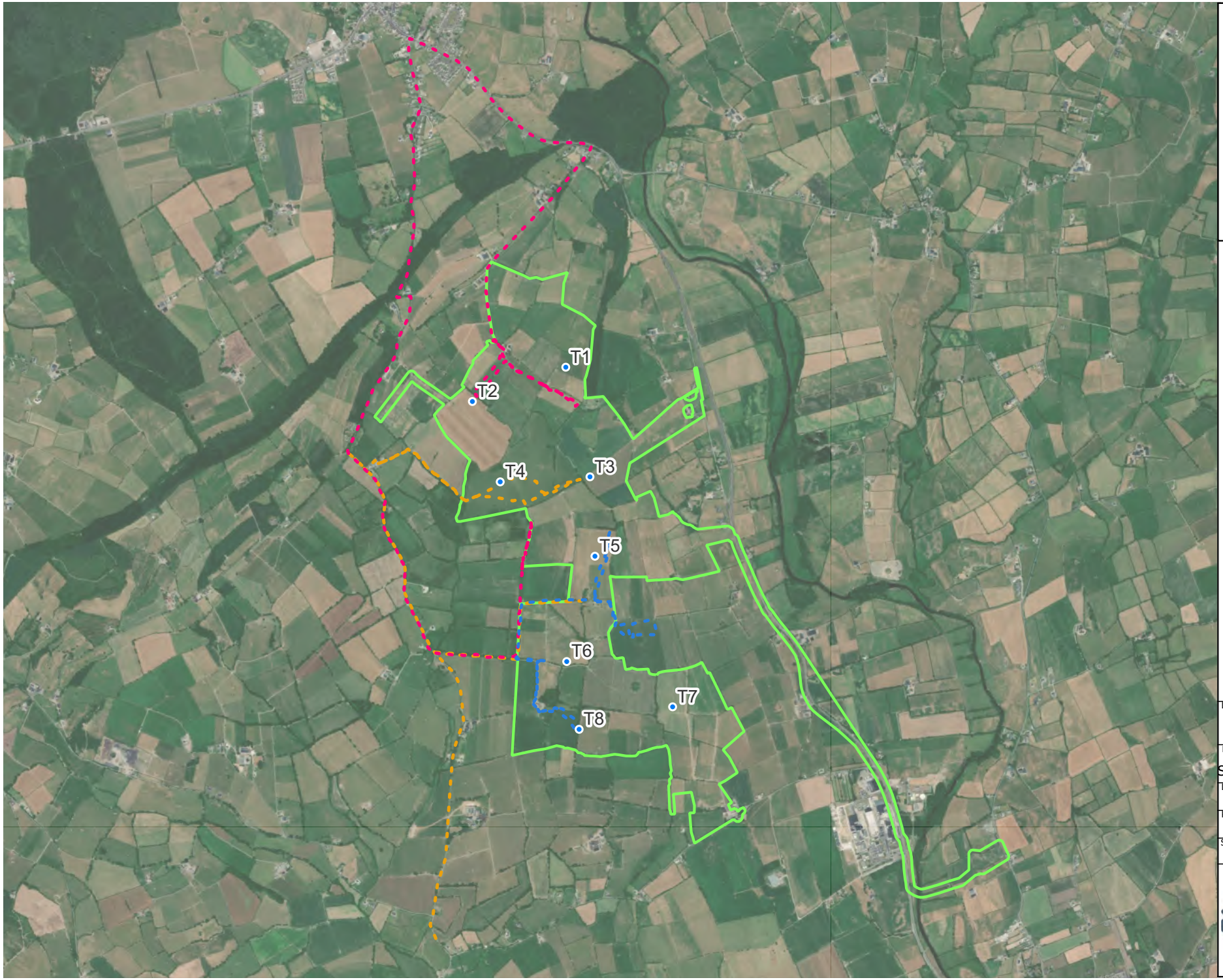
3.3.3 Manual Transects

Manual activity surveys comprised walked transects conducted after dusk. A series of representative transect routes were selected throughout the Site, with the aim of identifying bat species present, gathering information on bat behaviour, and recording important features used by bats. Transect routes were prepared with reference to the Site layout, findings from desktop and walkover surveys, as well as health and safety considerations and access limitations. As such, transects generally followed existing roads and tracks. To ensure adequate coverage of turbine locations, some sections of the summer and autumn transects were partially driven, as it would not have been feasible to reach all turbines within the required survey window by walking alone. The driven transect portions followed the methodology described by Roche *et al.* (2012). Transect routes undertaken in 2023 are presented in Figure 3-1.

Transects were walked/driven by two surveyors, recording bats in real time. Transects commenced immediately after the dusk emergence surveys and were completed for up to 3 hours after sunset. Surveyors were equipped with active full spectrum bat detectors, the Batlogger M bat detector (Elekon AG, Lucerne, Switzerland), and all bat activity was recorded for subsequent analysis to confirm species identifications. Transects surveys were undertaken in spring, summer and autumn 2023. Table 3-4 summarises survey effort in relation to manual transects.

Table 3-4 Survey Effort - Manual Transects 2023

Date	Surveyors	Sunrise / Sunset	Survey Type	Time	Weather	Transect (km)
17th May 2023	Laura Gránicz and Ryan Connors	21:23	Dusk Emergence and Transect	22:53 – 00:25	12°C, Dry, 100-30 % cloud cover, calm	4.6 km
28th June 2023	Laura Gránicz and Ryan Connors	21:58	Dusk Emergence and Transect	23:28 – 01:00	14-12°C, Dry, light breeze, 60% moon visible, 10% cloud cover	11.1 km
11th October 2023	Laura Gránicz and Ryan Connors	18:43	Dusk Emergence and Transect	20:15 – 21:53	10°C, Dry, calm, moon non-visible, 80-0% cloud cover	8.8 km



Map Legend

- EIAR Site Boundary
- Proposed Turbine Locations
- Spring Transect Rooute 17th May 2023
- Summer Transect Route 28th June 2023
- Autumn Transect Route 11th October 2023

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Drawing Title
Survey Effort 2023 - Manual Transects

Project Title
Seskin Renewables Wind Farm

Drawn By	Checked By
RC	AJ
Project No.	Drawing No.
231103	Figure 3-1
Scale	Date
1:30,000	2025-06-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie

3.3.4 Ground-level Static Surveys

Where developments have less than 10 turbines, NatureScot requires 1 detector per turbine (up to 10 plus 1 detector for every 3 additional turbines). Given that 8 no. turbines were proposed at the time of the surveys, 8 detectors were deployed to ensure compliance with NatureScot guidance. Automated bat detectors were deployed for at least 10 nights in spring (April-May), 20 nights of summer (June-mid August) and 10 nights of autumn (mid-August-October) (NatureScot, 2021/NIEA, 2021). Detector locations were based on indicative turbine locations. However, design layout changes during the summer survey period resulted in minor adjustments to detector locations at three locations. The static detector locations, relative to the final proposed layout, are shown in Figure 3-2 and detailed in Table 3-5.

Table 3-5 Ground-level Static Detector Locations 2023

ID	Location (IG Ref)	Habitat	Linear Feature within 50m	Corresponding/ Nearest Turbine(s)
D01	S 41798 75071	Improved agricultural grassland (GA1), Hedgerow (WL1)	Hedgerow (WL1)	T01
D02	S 41313 74878	Improved agricultural grassland (GA1), Treeline (WL2)	Treeline (WL2)	T02
D03 (Initial)	S 41921 74619	Improved agricultural grassland (GA1), Hedgerow (WL1)	Hedgerow (WL1)	T03
D03	S 41461 74387 / S 41962 74361	Improved agricultural grassland (GA1), Treeline (WL2)	Treeline (WL2)	T03
D04	S 41962 74361	Improved agricultural grassland	N/A	T04
D05	S 42113 73989	Improved agricultural grassland (GA1), Treeline (WL2)	Treeline (WL2)	T05
D06	S 41852 73244 / S 41852 73244	Improved agricultural grassland (GA1), Treeline (WL2)	Treeline (WL2)	T06
D07	S 42592 73019 / S 42592 73019	Improved agricultural grassland (GA1), Treeline (WL2)	Treeline (WL2)	T07
D08	S 41912 72824	Improved agricultural grassland (GA1), Treeline (WL2)	Treeline (WL2)	T08

Full spectrum bat detectors, Song Meter SM4BAT (Wildlife Acoustics, Maynard, MA, USA), were employed using settings recommended for bats, with minor adjustments in gain settings and band pass filters to reduce background noise when recording. Detectors were set to record from 30 minutes before sunset until 30 minutes after sunrise. The Song Meter automatically adjusts sunset and sunrise times using the Solar Calculation Method when provided with GPS coordinates.

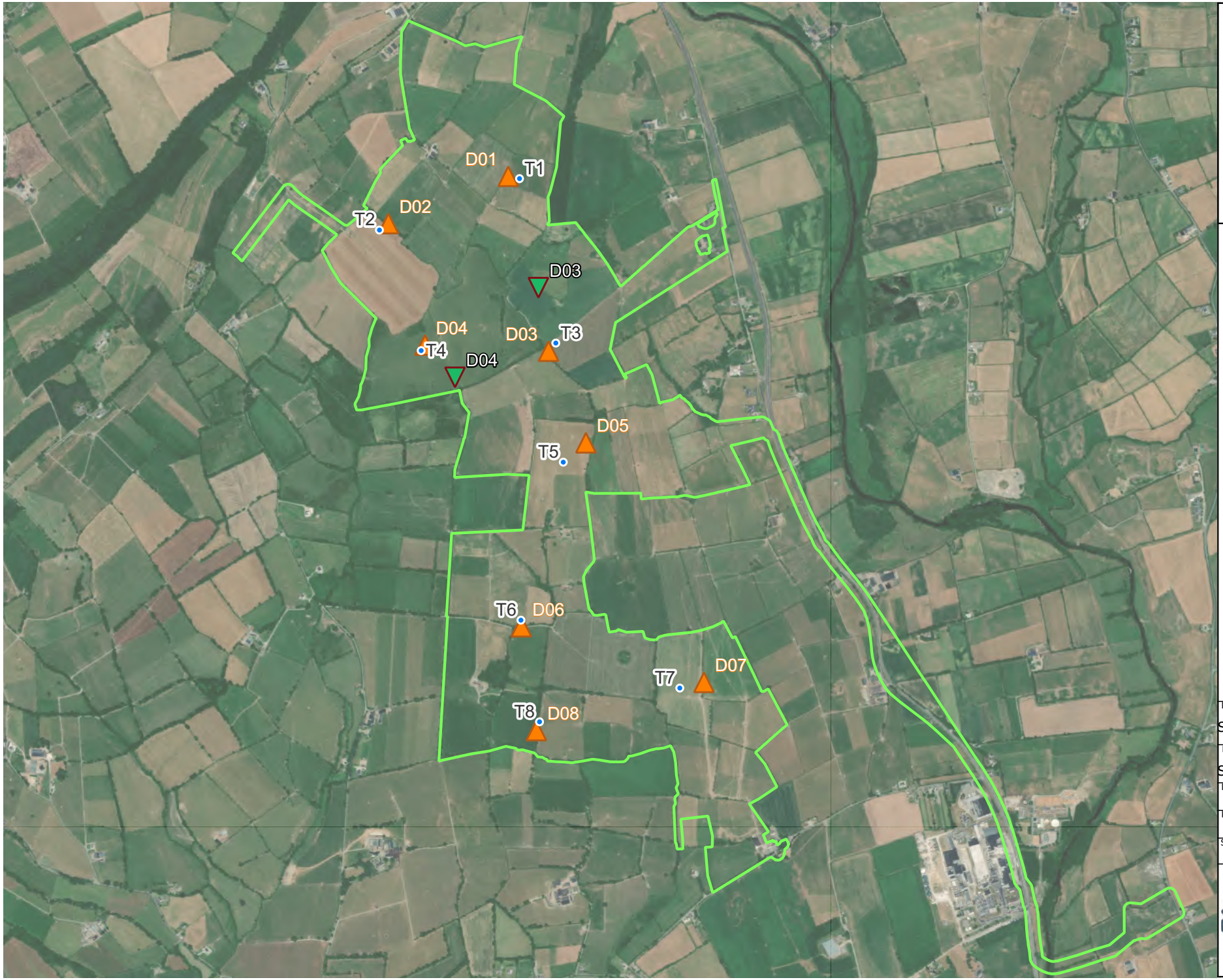
Onsite weather monitoring was undertaken concurrently with static detector deployments. One Vantage Pro 2 (Davis Instruments, CA, UCS) was deployed each season and night-time hourly data was tracked remotely to ensure a sufficient number of nights (i.e. minimum 10-20 nights) with appropriate weather conditions were captured (i.e. dusk temperatures above 8˚C, wind speeds less than 5m/s and no or only very light rainfall). Table 3-6 summarises survey effort achieved in 2023 for each of the detector deployments.

Due to a design layout change during the summer survey period, detectors D03 and D04 were repositioned to reflect the updated turbine layout. The revised deployment began on 27th July 2023, with collection occurring on the 14th September. Detector D03 reached full storage capacity by 7th August, providing 10 nights of data, while D04 recorded a full 49-night dataset. Prior to relocation, the original D03 position—approximately 275m north of the updated location—had already recorded 29 nights of summer data. Given the short distance between the two locations and the consistent habitat type (improved agricultural grassland), the combined data is considered representative of bat activity at the updated turbine location.

Table 3-6 2023 Survey Effort - Ground-level Static Surveys

Season	Survey Period	Total Survey Nights per Detector Location	Nights with Appropriate Weather
Spring 2023	17th May – 1st June 2023	15	15
Summer 2023	28th June – 27th July 2023*	29	26
Autumn 2023	14th September – 9th October 2023	25	24
Total Survey Effort		**69**	**65**

**Detectors D03 and D04 were redeployed for the summer period from 27th July to 14th September following a design layout change. Detector D03 reached full data capacity on 7th August.*



Map Legend

- EIAR Site Boundary
- Proposed Turbine Locations
- Initial D03 & D04 Detector Locations Prior to Layout Change
- Final Detector Locations

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Drawing Title
Static Detector Locations 2023

Project Title
Seskin Renewables Wind Farm

Drawn By	Checked By
RC	AJ
Project No.	Drawing No.
231103	Figure 3-2
Scale	Date
1:20,000	2025-06-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie

3.4 Bat Call Analysis

All recordings from were later analysed using bat call analysis software Kaleidoscope Pro v.5.6.3 (Wildlife Acoustics, MA, USA). The aim of this was to identify, to a species or genus level, what bats were present at the Site. Bat species were identified using established call parameters, to create site-specific custom classifiers and were manually verified.

Echolocation signal characteristics (including signal shape, peak frequency of maximum energy, signal slope, pulse duration, start frequency, end frequency, pulse bandwidth, inter-pulse interval and power spectra) were compared to published signal characteristics for local bat species (Russ, 1999). Myotis species (potentially Daubenton's bat (*M. daubentonii*), Whiskered bat (*M. mystacinus*), Natterer's bat (*M. natterer*i) were considered as a single group, due to the difficulty in distinguishing them based on echolocation parameters alone (Russ, 1999). The echolocation of soprano pipistrelle (*P. pygmaeus*) and common pipistrelle (*P. pipistrellus*) are distinguished by having distinct frequencies (peak frequency of maximum energy in search flight) of ~55 kHz and ~46 kHz respectively (Jones & van Parijs, 1993).

Plate 3-1 below shows a typical sonogram of echolocation pulses for common pipistrelle recorded with a SM4BAT bioacoustic static bat recording device. The recorded file is illustrated using Wildlife Acoustics Kaleidoscope software.

Individual bats of the same species cannot be distinguished by their echolocation alone. Thus, 'bat passes' was used as a measure of activity (Collins, 2016). A bat pass was defined as a recording of an individual species/species group's echolocation containing at least two echolocation pulses and of maximum 15s duration. All bat passes recorded in the course of this study follow these criteria, allowing comparison.

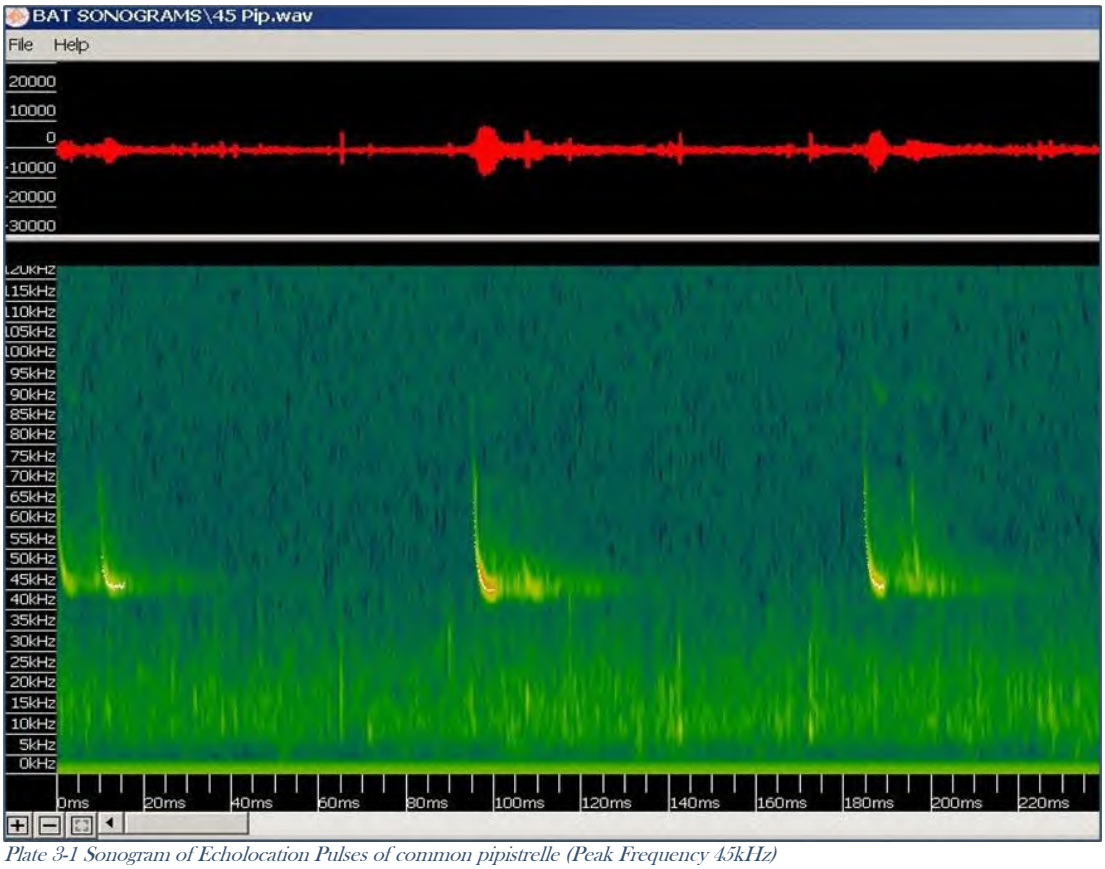


Plate 3-1 Sonogram of Echolocation Pulses of common pipistrelle (Peak Frequency 45kHz)

3.5 Assessment of Bat Activity Levels

The online database tool Ecobat (mammal.org.uk) is recommended by NatureScot 2021 to assess bat activity levels within a proposed wind-farm site. This web-based interface, launched in August 2016, allows users to upload activity data and to contrast results with a comparable reference range, allowing objective interpretation. Uploaded data then contributes to the overall dataset to provide increasingly robust outputs. Ecobat generates a percentile rank for each night of activity and provides a numerical way of interpreting levels of bat activity in order to provide objective and consistent assessments. Table 3-7 defines bat activity levels as they relate to Ecobat percentile values (NatureScot, 2021).

Table 3-7 Ecobat Percentile Score and Categorised Level of Activity (NatureScot, 2021)

Ecobat Percentile	Bat Activity Level
81 to 100	High
61 to 80	Moderate to High
41 to 60	Moderate
21 to 40	Low to Moderate
0 to 20	Low

Ecobat was unavailable for a cross-site analysis of 2023 data as the platform has been undergoing maintenance since late 2022 and was not fully operational at the time of this report. Therefore, bat activity level data were assessed on a site-specific basis.

Following preliminary analysis and manual verification using Kaleidoscope Pro, statistical analysis and visualisation was performed using RStudio (version 2023.12.1+402.) and R1 (version 4.3.3). RStudio, an integrated development environment for the R programming language, was employed for data cleaning, exploration, and data visualisation. The 'ggplot2' R package was particularly instrumental in creating the data visualisations shown in the results section. Data was standardised into bat pass rates, calculated as bat passes per hour (total bat passes / night length) to account for seasonal changes in night length (Matthews et al. 2016). Activity is often variable between survey nights. Therefore, the median Nightly Pass Rate was used as the most appropriate measure of bat activity (Lintott & Mathews, 2018). During all calculations, data was rounded to at least three decimal places. When visualising the bat pass rates per season, survey effort was defined as detector hours (sum of recorded hours across all detectors). This was defined to circumvent any issues arising from differences in survey effort between detectors in a season.

The methodology used to assess activity levels across the Site was adapted from Mathews et al. (2016), where activity ranges of pipistrelle species were defined using an average of maximum nightly pass rates (in total passes during the survey period) across all detectors, divided into tertiles. In our methodology, widespread species (Pipistrellus pipistrellus, Pipistrellus pygmaeus, Nyctalus leisleri) activity ranges were determined using an average of maximum nightly pass rates (total passes / survey effort) across all detectors, divided into quartiles. For all other species groups, maximum nightly pass rate (bpph) recorded across all detectors, divided into quartiles was used. Activity levels were assessed separately for widespread pipistrelle species (Pipistrellus pipistrellus, Pipistrellus pygmaeus), noctules (Nyctalus leisleri), Myotis spp. and rare or hard to record species (Plecotus auritus, Pipistrellus nathusii). Median and maximum nightly activity (bpph) at each detector location were then categorized as Low, Medium, or High for each recorded season. Any figure below 25% of the maximum/average maximum nightly pass rate was considered Low activity, while figures above 75% were classified as High. Values falling between these two quartiles were defined as Medium. To prevent skewing the activity thresholds, any evident outliers recorded across the detectors were excluded. Table 3-8 presents activity ranges per species group identified.

Table 3-8 Site-specific Activity Level Categories based on Maximum Bat Passes per Hour (bpph)

Assessment Level	Activity Threshold as Bat Passes per Hour (bpph) for Bat Species				
	Myotis spp.	*Nyctalus spp.*	*Nathusius pipistrelle*	*Pipistrellus spp.*	*Plecotus auritus*
Low	< 8.08	< 1.81	< 1.33	< 11.77	< 0.85
Medium	8.08 – 24.23	1.81 – 24.23	1.33 – 3.98	11.77 – 35.32	0.85 – 2.55
High	> 24.23	> 5.43	> 3.98	> 35.32	> 2.55

Based on experience gained surveying a large number of development sites, the calculated activity thresholds were considerably high for all species surveyed. To provide a more precautionary and representative assessment of bat activity in agricultural and wet grassland habitats, the thresholds were adjusted based on MKO's experience with similar habitat types. The thresholds presented in Table 3-9 have been deliberately reduced to reflect a worst-case scenario, ensuring a conservative approach to assessing potential impacts.

Table 3-9 Adapted Activity Level Categories

Assessment Level	Activity Threshold as Bat Passes per Hour (bpph) for Bat Species				
	Myotis spp.	*Nyctalus* spp.	*Nathusius pipistrelle*	*Pipistrellus* spp.	*Plecotus auritus*
Low	< 1.90	< 1.66	< 0.33	< 11.77	< 0.20
Medium	1.90 – 5.70	1.66 – 4.98	0.33 – 0.98	11.77 – 35.32	0.20 – 0.60
High	> 5.70	> 4.98	> 0.98	> 35.32	> 0.60

3.6 Assessment of Collision Risk

3.6.1 Population Risk

NatureScot (2021) provides a generic assessment of bat collision risk for UK species, based on species behaviour and flight characteristics. In the guidelines, this measure of collision risk is used, in combination with relative abundance, to indicate the potential vulnerability of British bat populations. No such assessment is provided for Irish bat populations.

In Plate 3-2, an adapted assessment of vulnerability of Irish bat populations to collision with wind turbine blades is provided. This adaptation of the NatureScot Guidance Table 2 was based on collision risk and species abundance of Irish bat populations. Species' collision risk follows those described in NatureScot (2021). Relative abundance for Irish species was determined in accordance with Wray *et al.* (2010) using population data available in the 2025 ~~2019~~ Article 17 reports (NPWS, 2025 ~~2019~~). Feeding and commuting behaviours, and habitat preferences for bat species in Ireland were also considered.

Relative Abundance	Low Collision Risk	Medium Collision Risk	High Collision Risk
Common species			Common pipistrelle Soprano pipistrelle
Rarer species	Daubenton's bat Brown long-eared bat Lesser horseshoe bat		Leisler's bat
Rarest species	Natterer's bat Whiskered bat		Nathusius' pipistrelle
	Low Population Vulnerability	Medium Population Vulnerability	High Population Vulnerability

Plate 3-2 Population Vulnerability of Irish Bat Species (Adapted from NatureScot, 2021)

3.6.2 Site Risk

The likely impact of a proposed development on bats is related to site-based risk factors, including habitat and development features. The cross-tablature result of habitat risk and project size determines the site risk (i.e. Low, Medium or High) (Plate 3-3) i.e. Table 3a (NatureScot, 2021). Table 5-1 in the results section describes the criteria and site-specific characteristics used to determine an indicative risk level for the Site. All site assessment levels, as per NatureScot (2021) are presented in **Appendix 2**.

		Project Size		
		Small	Medium	Large
Habitat Risk	Low	1	2	3
	Moderate	2	3	4
	High	3	4	5
		Low/Lowest Site Risk (1-2)	Medium Site Risk (3)	High/Highest Site Risk (4-5)

Plate 3-3 Site-risk Level Assessment Matrix (Table 3a, NatureScot, 2021)

3.6.3 Overall Risk Assessment

An overall assessment of risk was made by combining the site risk level (i.e. Medium) and the population risk (i.e. Ecobat bat activity outputs), as shown in the overall risk assessment matrix table (Plate 3-4) i.e. Table 3b (NatureScot, 2021). The assessment was carried out for both median and maximum activity categories in order to provide insight into typical bat activity (i.e. median values) and activity peaks (i.e. maximum values) (**Appendix 3**).

	Ecobat Activity Category					
Site Risk Level	Nil (0)	Low (1)	Low-Moderate (2)	Moderate (3)	Moderate-High (4)	High (5)
Lowest (1)	0	1	2	3	4	5
Low (2)	0	2	4	6	8	10
Medium (3)	0	3	6	9	12	15
High (4)	0	4	8	12	16	20
Highest (5)	0	5	10	15	20	25
		Low Overall Risk (0-4)	Medium Overall Risk (5-12)	High Overall Risk (13-25)		

Plate 3-4 Overall Risk Assessment Matrix (Table 3b, NatureScot, 2021)

This exercise was carried out for each high collision risk species. Overall risk assessments were also considered in the context of any potential impacts at the population level, particularly for species identified as having high population vulnerability (Plate 3-2 above).

3.7 Limitations

A comprehensive suite of bat surveys has been undertaken at the Site in 2023 and 2024 and at the Proposed Grid Connection in 2024. The surveys undertaken at the Site, in accordance with NatureScot Guidance, provide the information necessary to allow a complete, comprehensive and robust assessment of the potential impacts of the Site on bats receptors.

The information provided in this report accurately and comprehensively describes the baseline environment; provides an accurate prediction of the likely potential effects of the Proposed Development; prescribes mitigation as necessary; and describes the predicted residual impacts. The specialist studies, analysis and reporting have been undertaken in accordance with the appropriate guidelines.

No limitations in the scope, scale or context of the assessment have been identified. Overall, a comprehensive assessment has been achieved.

4. SURVEY RESULTS

4.1 Consultation

4.1.1 Bat Conservation Ireland

Bat Conservation Ireland were invited to comment on the potential of the Proposed Development to affect bats. A response was received on the 15th May 2024 in which they stated that, due to limited resources, they do not have the capacity to engage with or provide comments on planning matters.

4.1.2 Development Applications Unit - NPWS

The Development Applications Unit were also invited to provide any feedback, comments or suggestions they might have relating to the Proposed Development. A response was received from the Department of Housing, Local Government and Heritage on the 24th June 2024. The response primarily addressed archaeological considerations on the Site and did not make any reference to bats.

4.2 Desk Study

4.2.1 Bat Records

Bat Conservation Ireland

A data request was sent to Bat Conservation Ireland for records of bat activity and roosts within a 10km radius of an approximate central point in the Site (Grid Ref: S 4216 273744). Available bat records were provided by BCI on 29th April 2025. The search included roosts, transects and ad-hoc observations. A number of ad-hoc observations (n=38) have been recorded. At least eight of Ireland's nine resident bat species were recorded within 10km of the Site. The results of the database search are provided in Table 4-1.

Table 4-1 Bat Conservation Ireland Records within 10km of the Site centre

Survey Type	Species	Grid reference	Date	Location
Roost	*Myotis natterreri, Myotis daubentonii, Plecotus auritus*	S5096964968	N/A	Dunmore Cave, County Kilkenny
	Pipistrellus pygmaeus	S440808	N/A	Clonkeen, Abbeyleix, County Laois
	Pipistrellus pipistrellus (45kHz)	S4381	N/A	Abbeyleix, County Laois
	Myotis natterreri	S4906182679	N/A	Dysartgallen Church, County Laois
	Pipistrellus pygmaeus	S5183	N/A	Graiguenahown, Spink, Abbeyleix, County Laois R32 D562
	Myotis daubentonii	S4412066003	N/A	Lismaine Bridge, Coolcraheen, County Kilkenny
	Pipistrellus pipistrellus (45kHz), *Pipistrellus* spp. (45kHz/55kHz), *Myotis mystacinus*	S4681	N/A	Ballinakill, County Laois
	Plecotus auritus	S3379	N/A	Grantstown, Clogh, Co. Laois
	Plecotus auritus, Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*	S3479	N/A	Grantstown, Clogh, Co. Laois

	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*	S5167	N/A	Lisnafunchin, Jenkinstown, Co. Kilkenny
Transect	Unidentified bat, *Myotis daubentonii*	S506662	N/A	Corbettstown Transect
	Myotis natterreri, Unidentified bat, *Myotis daubentonii*	S4050077500	N/A	Footbridge u/s Durrow Drive Transect
	Myotis daubentonii	S4410566004	N/A	Lismaine Bridge Transect
	Pipistrellus pipistrellus (45kHz), *Pipistrellus* spp. (45kHz/55kHz), Unidentified bat, *Nyctalus leisleri*, *Pipistrellus pygmaeus*	S393647	N/A	S15 (1) 2005-
	Nyctalus leisleri, *Pipistrellus* spp. (45kHz/55kHz), *Pipistrellus pipistrellus* (45kHz)	S326725	N/A	S15 (19) 2005-2008
	Pipistrellus pipistrellus (45kHz), *Nyctalus leisleri*	S372742	N/A	S15 (20) 2005-2008
	Myotis daubentonii, Unidentified bat, *Nyctalus leisleri*	S4235776207	N/A	Tally Ho Bridge, Durrow Transect
Ad-Hoc	*Myotis* spp., *Pipistrellus pipistrellus* (45kHz)	S466808	2008-00-00	Consultancy Surveys
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*, *Plecotus auritus*	S466815	20/09/2012	Consultancy Surveys
	Myotis natterreri, *Nyctalus leisleri*, *Pipistrellus pygmaeus*	S437811	26/09/2005	Consultancy Surveys
	Pipistrellus pygmaeus, *Myotis daubentonii*, *Nyctalus leisleri*	S4086777445	20/07/2008	BATLAS 2010
	Pipistrellus pipistrellus (45kHz)	S4702071755	20/07/2008	BATLAS 2010
	Unidentified bat, *Pipistrellus pipistrellus* (45kHz), *Pipistrellus pygmaeus*, *Nyctalus leisleri*, *Myotis daubentonii*, *Plecotus auritus*	S342778	08/08/2009	BATLAS 2010
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*, *Nyctalus leisleri*	S357686	08/08/2009	BATLAS 2010
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*, *Nyctalus leisleri*, *Myotis daubentonii*	S491827	07/06/2009	BATLAS 2010
	Pipistrellus pipistrellus (45kHz)	S5079864643	25/09/2018	BATLAS 2020
	Pipistrellus pipistrellus (45kHz)	S4058164716	11/08/2018	BATLAS 2020
	Pipistrellus pipistrellus (45kHz), *Nyctalus leisleri*, Unidentified bat	S4490470846	05/09/2018	BATLAS 2020
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*, *Nyctalus leisleri*, *Myotis daubentonii*, *Plecotus auritus*	S4440770905	05/09/2018	BATLAS 2020
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*	S4706471788	05/09/2018	BATLAS 2020
	Pipistrellus pygmaeus, *Nyctalus leisleri*	S4784371997	05/09/2018	BATLAS 2020
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*, *Nyctalus leisleri*, *Myotis daubentonii*	S4227076238	05/09/2018	BATLAS 2020
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*, *Nyctalus leisleri*, *Myotis daubentonii*	S4083177472	05/09/2018	BATLAS 2020

	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*, *Nyctalus leisleri*	S3733481427	27/06/2019	BATLAS 2020
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*, *Nyctalus leisleri*, *Plecotus auritus*	S5110067400	24/08/2003	Consultancy Surveys
	Nyctalus leisleri	S3300079000	01/10/2005	Consultancy Surveys
	Nyctalus leisleri	S3300080000	01/10/2005	Consultancy Surveys
	Pipistrellus pipistrellus (45kHz)	S3400079000	01/10/2005	Consultancy Surveys
	Pipistrellus pygmaeus, *Pipistrellus pipistrellus* (45kHz), *Nyctalus leisleri*	S3400078000	01/10/2005	Consultancy Surveys
	Myotis daubentonii	S3400077000	01/10/2005	Consultancy Surveys
	Pipistrellus pygmaeus, *Myotis daubentonii*, *Pipistrellus pipistrellus* (45kHz)	S4000077000	01/10/2005	Consultancy Surveys
	Pipistrellus pygmaeus, *Myotis daubentonii*, *Pipistrellus pipistrellus* (45kHz)	S4000079000	01/10/2005	Consultancy Surveys
	Pipistrellus spp. (45kHz/55kHz)	S372814	29/09/2018	National Biodiversity Data Centre Bat Records
	Myotis daubentonii	S423763	15/08/2019	National Biodiversity Data Centre Bat Records
	Pipistrellus pipistrellus (45kHz)	S372814	08/08/2019	National Biodiversity Data Centre Bat Records
	Myotis daubentonii	S494644	22/06/2019	National Biodiversity Data Centre Bat Records
	Pipistrellus pipistrellus (45kHz), *Pipistrellus pygmaeus*	S437830	08/06/2013	National Biodiversity Data Centre Bat Records
	Pipistrellus spp. (45kHz/55kHz)	S392661	30/05/2021	National Biodiversity Data Centre Bat Records
	Myotis daubentonii	S445711	14/06/2022	National Biodiversity Data Centre Bat Records
	Pipistrellus spp. (45kHz/55kHz)	S372814	01/04/2020	National Biodiversity Data Centre Bat Records
	Pipistrellus spp. (45kHz/55kHz)	S446711	08/11/2021	National Biodiversity Data Centre Bat Records
	Myotis daubentonii	S420828	08/09/2023	National Biodiversity Data Centre Bat Records
	Pipistrellus pipistrellus (45kHz)	S421831	08/09/2023	National Biodiversity Data Centre Bat Records
	Myotis mystacinus, *Pipistrellus pipistrellus* (45kHz), *Pipistrellus pygmaeus*, *Pipistrellus nathusii*	S4392083597	28/07/2017	Pilot Woodland Monitoring Scheme 2016-2017
	Myotis mystacinus, *Myotis natterreri*, *Plecotus auritus*, *Nyctalus leisleri*, *Pipistrellus pipistrellus* (45kHz), *Pipistrellus pygmaeus*	S4392083597	30/08/2017	Pilot Woodland Monitoring Scheme 2016-2017

National Bat Database of Ireland

The National Bat Database of Ireland was searched for records of bat activity and roosts within a 10km radius of the Site centre (last search 03/04/2025). Eight of Ireland's nine bat species were recorded in the hectads located within 10km of the site. The results of the database search are provided in Table 4-2.

Table 4-2 NBDC Bat Records within 10km of Proposed Development

Hectad	Species	Database	Designation
S36, S37, S38, S46, S47, S48	Brown Long-eared Bat (*Plecotus auritus*)	National Bat Database of Ireland	HD Annex IV, WA
S36, S37, S38, S46, S47, S48	Common Pipistrelle (*Pipistrellus pipistrellus*)	National Bat Database of Ireland	HD Annex IV, WA
S36, S37, S38, S46, S47, S48	Leisler's Bat (*Nyctalus leisleri*)	National Bat Database of Ireland	HD Annex IV, WA
S36, S37, S38, S46, S47, S48	Soprano Pipistrelle (*Pipistrellus pygmaeus*)	National Bat Database of Ireland	HD Annex IV, WA
S37, S46, S47, S48	Daubenton's Bat (*Myotis daubentonii*)	National Bat Database of Ireland	HD Annex IV, WA
S36, S38, S46, S47, S48	Natterer's Bat (*Myotis nattereri*)	National Bat Database of Ireland	HD Annex IV, WA
S48	Nathusius' Pipistrelle (*Pipistrellus nathusii*)	National Bat Database of Ireland	HD Annex IV, WA
S48	Whiskered Bat (*Myotis mystacinus*)	National Bat Database of Ireland	HD Annex IV, WA

4.2.2 Bat Species Range

The potential for negative impacts is likely to increase where there are high risk species at the edge of their range (NatureScot, 2021). Therefore, range maps presented in the 2025 ~~2019~~ Article 17 Reports (NWPS, 2025 ~~2019~~) were reviewed in relation to the location of the Site.

The Site is located outside the current known range for lesser horseshoe bat, and just outside the current known range for the whiskered bat. The Site is within the range of all other species.

4.2.3 Designated Sites

Within Ireland, the lesser horseshoe bat is the only bat species requiring the designation of Special Areas of Conservation (SACs). The Site is located outside the current known range of this species (NPWS, 2025 ~~2019~~) and is approximately 87 km away from the nearest designated SAC for the lesser horseshoe bat (Danes Hole, Poulnalecka SAC).

Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) may be designated for any bat species. A search of NHAs and pNHAs within a 10 km radius of the Site centre found no sites designated for the conservation of bats.

4.2.4 Landscape Features and Habitat Suitability

A review of mapping and photographs provided insight into the habitats and landscape features present at the Site. In summary, the primary land use within the Site is improved agricultural grassland.

A review of the GSI online mapper did not indicate the possible presence of any subterranean sites within the Site. A search of the National Monuments Database revealed the presence of two ringforts and two enclosures within the Site (Table 4-3).

A search of the UBSS Cave Database for the Republic of Ireland found no caves within the Site and one cave within 10km of the Site boundary (Table 4-4).

A review of the NBDC bat landscape map provided a habitat suitability index of 27.89 (Yellow) to 36.11 (Orange). This indicates that the Site has Low to Moderate habitat suitability for bat species.

Table 4-3 National monument sites within the Site.

National Momument	Description
KK004-010	Ringfort
KK004-036	Ringfort
KK004-003	Enclosure
KK004-059	Enclosure

Table 4-4 Caves and subterranean sites within 10km of the Site centre

Caves	Distance from Site	Description
Within 10km of the Site		
Dunmore Cave	9.6km	300m of large calcited chambers and tunnels

4.2.5 Additional Projects in the Wider Landscape

Table 4-5 provides an overview of wind farm developments within 5 and 10 km of the Site.

Table 4-5 Wind farm developments within 10km of the proposed turbine locations

Wind Farm	Status	No. of Turbines	Turbine Height
Less than 5km			
Ballynalacken Wind Farm	Proposed	12	Tip Height 155m
Lisdowney Wind Farm	Existing	4	Tip Height 121.5m
Single Turbine	Existing	1	Tip Height Unknown
5 to 10km			
Pinewoods Wind Farm	Permitted	10	Tip Height 136.5m

In addition to wind energy developments, four other EIA planning applications were noted within 10km of the Site. These include the following:

- EIA Portal Ref: 2021145 - The installation of 31.489 km of 38 KV cable ducting and associated electrical cabling and all other ancillary works including joint bays, culverts, maker posts and all associated development
- EIA Portal Ref: 2021211 - Area of 8.5 Ha. comprising of: Removal of vegetation and overburden; Extraction of sand and gravel; Upgrading of existing entrance and site lines; Construction of screening berms, wheel wash & refuelling area; Landscaping and restoration; 10 yr permission. EIA Portal Ref: 2023156 - Extraction of sand and gravel (c. 787,310m3 total or c. 1.57 million tonnes total, at a maximum extraction rate of c. 200,000 tonnes per annum) over the proposed 10-year permission sought.
- EIA Portal Ref: 2024094 – The development will consist of the extension to an existing pig farm consisting of five modern animal house units, three feed silo's, together with all ancillary site works.

4.3 Field Surveys

4.3.1 Bat Habitat Suitability Appraisal

4.3.1.1 Proposed Wind Farm

A total of twelve habitats were recorded within the Proposed Wind Farm including:

- *Improved Agricultural Grassland (GA1)*
- *Wet grassland (GS4)*
- *Arable Crops (BC1)*
- *(Mixed) Broadleaved Woodland (WD1)*
- *(Mixed) Broadleaved / Conifer Woodland (WD2)*
- *Wet Willow-Alder Ash Woodland (WN6)*
- *Scrub (WS1)*
- *Earth Banks associated with hedgerows and treelines*
- *Hedgerows (WL1)*
- *Treelines (WL2)*
- *Drainage Ditches (FW4)*
- *Eroding Upland Rivers/Streams (FW1)*
- *Depositing / lowland river (FW2)*
- *Buildings and Artificial Surfaces (BL3)*

Further details on habitats within the Proposed Wind Farm can be found in Chapter 6 of the main EIAR. The majority of the land cover within the Proposed Wind Farm site were characterised as improved agricultural grassland pasture, with smaller areas of wet grassland, scrub, treelines/hedgerow and mixed broadleaf woodland habitats also prevalent.

Results from the desktop review and walkover surveys were used to assess habitats for their suitability to support foraging and commuting bats, and roosting bats, according to Collins (2023). Suitability categories, divided into *High, Moderate, Low, Negligible* and *None and* are described fully in **Appendix 1.**

With regard to foraging and commuting bats, exposed areas of grassland and farmland (tilled and arable) habitats outlined above were considered *Low* suitability, i.e. *Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated* (Collins, 2023). Areas of scrub, earth banks associated with hedgerows and treelines, eroding upland rivers/streams and drainage ditches provide connectivity via linear features to the surrounding landscape. As such, they were assessed as having *Moderate* suitability i.e. *Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.* (Collins, 2023). Due to their varying levels of maturity and connectivity, treelines and hedgerows were assessed as having *Moderate* to *High* suitability. While mixed woodland areas and depositing lowland rivers were assessed as having *High* suitability, i.e. *Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge.* (Collins, 2023).

Trees within the Proposed Wind Farm area primarily comprise a mixture of mature and immature broadleaved species, with a small area of mixed broadleaved and coniferous woodland also present. The dominant broadleaved species recorded were ash, oak, beech, and sycamore, with understory species including hawthorn, hazel, elder, holly, and willow. Mixed broadleaved/conifer woodland was dominated by ash and *Pinus spp.*.

With regards to roosting bats, a number of mature broadleaf trees were identified within the bat buffers which present *Negligible* to *High* roosting potential. In relation to bat buffers, a minimum 50m buffer between turbine blade tip and nearest woodland (or other key habitat features) used by bats (e.g., hedgerows, treelines etc.) is recommended at all wind turbines (NatureScot, 2021). Further detail on bat buffers is outlined in in Section 6.1.3 below.

The trees assessed varied in characteristics with some containing extensive ivy cover as well as branch damage and wounds providing potential roosting features suitable for opportunistic and/or regular roosting. Habitat suitability assessment for trees with potential for roosting bats are outlined in further detail in Section 4.3.2 below. Additionally, three structures located within the Site, along with several others situated outside the EIAR site boundary (*buildings and artificial surfaces*) are also further assessed for roosting potential in Section 4.3.2 below. All other habitats present were assigned a *Negligible* value for roosting bats.

4.3.1.2 Proposed Grid Connection

The Proposed Grid Connection underground cabling route has an approximate length of 3.4km. It will originate at the onsite 38kV substation, which is located within an area of improved agricultural grassland (GA1) in the eastern vicinity of the Proposed Wind Farm site. The cable will run east towards the national road, N77 and will continue south towards Ballyragget, Co. Kilkenny for 2.2km. At the entrance to Tirlán Ballyragget integrated dairy plant, the cable turns east in to improved agricultural grassland (GA1) and will travel south for approximately 300m to the launch pit. From the launch pit the cable will travel under the River Nore by HDD and arrive at the reception pit. From here, the cable will cut through a treeline (WL2) and improved agricultural grassland (GA1) to reach the Ballyragget 110kV substation.

Habitats along the Proposed Grid Connection footprint include:

- *Improved agricultural grassland (GA1)*
- *Hedgerow (WL1)*

Further details of habitats along the Proposed Grid Connection footprint are outlined in Chapter 6, Section 6.4.2.

The proposed 38kV on-site substation is located to the east of the Proposed Wind Farm within an area characterised by improved agricultural grassland (GA1) and hedgerow (WL1) habitats.

Hedgerows adjacent to the proposed substation were assessed as having *High* suitability for commuting bats. No trees with potential roost features (PRFs) were identified within the proposed substation footprint. The majority of hedgerows at the proposed substation will be retained as part of the Proposed Development, aside from a section that will be removed to facilitate construction.

With regard to commuting and foraging bats, features along the Proposed Grid Connection underground cabling route such as agricultural grassland habitats were assessed as having *Low* suitability i.e. *Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.* Linear habitat features such as hedgerows (WL1) were assessed as having *Moderate* to *High* suitability i.e. *Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge.*

With regard to roosting bats, habitat features along the Proposed Grid Connection underground cabling route, including grassland habitats and hedgerows were assessed as having *Negligible* suitability i.e. Negligible habitat features on site likely to be used by roosting bats (Collins, 2023).

The Proposed Grid Connection underground cabling route will traverse one watercourse at the River Nore via Horizontal Directional Drilling (HDD). This crossing point was assessed for bat roost potential on the 19th December 2024. As there is no watercourse crossing structure present at this location, it does not provide any features suitable for roosting bats, and therefore no roosting potential was identified. The location of the watercourse crossing is shown in Chapter 4, Figure 4-1.

While no structure is present at the watercourse crossing, trees along the Proposed Grid Connection underground cabling route were assessed as having *Negligible* to *PRF-I* potential for roosting bats, i.e. *PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats* (Collins, 2023). However, these trees are to be retained as part of the Proposed Development. Further details on the Proposed Grid Connection can be found in Chapter 4, Section 4.3.2.

Table 4-6 Bat Roost Suitability of Watercourse Crossings along the Proposed Grid Connection Underground Cabling Route

Crossing ID	Grid Ref	Structure type	Photo	Bat Roost Potential	Crossing Type Description
WC1	S 43987 71859	None		No structure present at proposed crossing location. *No* bat roost potential.	Horizontal Directional Drilling

4.3.1.3 Turbine Delivery Accommodation Works

As described in Chapter 4, Section 4.4.3 of this EIAR, turbine delivery route accommodation works will be required at two locations to facilitate the delivery of turbine components and other abnormal loads to the Proposed Wind Farm during the construction phase. The accommodation works will be located within the village of Durrow, Co. Laois and at the junction between the N77/L58333 in the townland of Ballynaslee, Co. Kilkenny. The proposed locations are shown in Figures 4-22 to 4-24 of Chapter 4.

In the townland of Durrow Townparks, Co Laois, it is proposed to carry out temporary accommodation works within and adjacent to the green space, located at the Chapel Street/Mary Street (N77) junction. The existing trees, ornamental street furniture, signage and electricity/telecommunication poles, within and around the green space will be temporarily removed for the duration of the turbine component delivery phase. Upon completion of the turbine component delivery phase, the crushed stone and ground protection mats will be removed and the trees, ornamental street furniture, signage and electricity/telecommunication poles will be reinstated. The trees identified for temporary removal were assessed as providing *Negligible* suitability for commuting and foraging bats, with no potential roost features (PRFs) recorded. As such, a short-term loss of potential commuting and foraging habitat is anticipated, with no loss of roosting habitat.

In the townland of Ballynaslee, Co. Kilkenny, it is proposed to construct an accommodation area, using crushed stone within the grass verge of the junction between the L58333 local road and N77. No loss of commuting, foraging or roosting habitat is anticipated at this location.

4.3.2 Roost Surveys

4.3.2.1 Daytime Roost Inspections

Following the search for roosts in 2023 and 2024, three structures containing potential suitable bat roost features were identified within the Site, with several additional structures recorded outside the site boundary.

The grading protocol described by Collins (2023) was used: structures with *High* roosting potential present one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.; structures with *Moderate* roosting potential could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status; structures with *Low* potential present one or more potential roost sites that could be used by individual bats opportunistically at any time of the year.

The structures were subject to interior (where accessible) and exterior inspections to search for evidence of bats. Details of the inspection surveys are presented in Table 4-7 and illustrated in Figure 4-1. All identified structures will be retained and avoided as part of the Proposed Development.

Table 4-7 Structures assessed for bat roost potential in 2023 & 2024

Structure	Potential	IG Ref	Approx. distance to Site	Nearest turbine	Approx. distance to nearest turbine
Derelict farmhouse and adjoining shed	Moderate	S 42041 73614	0m	T5	300m
Archaeological stone structure	Low	S 42171 74108	0m	T5	235m
Inhabited Farmhouse with adjoining sheds	Low	S 42868 72354	0m	T7	735m
Farmhouse	Moderate	S 40657 74435	500m	T2	750m
Farm sheds	Low	S 40653 74453	480m	T2	730m

Stone ruin	Low	S 40813 75109	400m	T2	530m
Stone ruin 2	Low	S 40793 75073	390m	T2	530m
Farm shed 2	Moderate	S 42881 73750	100m	T7	850m
Stone farm shed	Moderate	S 42711 74392	300m	T3	710m
Ivy covered stone structure	Moderate	S 41081 71557	1,225m	T8	1,545m

4.3.2.1.1 *Derelict farmhouse and adjoining shed*

A derelict two-storey farmhouse with an adjoining shed (Plates 4-1 - 4-6) was identified near the centre of the Site (Grid Ref: S 42041 73614), approximately 300 m south of the nearest proposed turbine (T05). The farmhouse, constructed of stone, has a severely compromised roof with only wooden rafters remaining and vegetation present throughout. Two fireplaces and chimneys were inspected, but no evidence of bat use was found. Several potential access points for bats were present, including open windows, doorways, and the roof. A small number of individual bat droppings were observed on a second-floor window frame.

The adjoining stone shed (Plates 4-7 & 4-8), with wooden rafters and a corrugated metal roof, contained gaps in the stonework that offered limited roosting potential. These were inspected using a torch and endoscope where accessible. Dense ivy cover on the western wall was also present and may have obscured additional PRFs. No evidence of bat use was recorded during the daytime inspection.

The derelict farmhouse and adjoining shed were assessed as having *Moderate* roosting potential i.e. A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (Collins, 2023).



Plate 4-1 South aspect of derelict farmhouse and adjoining shed



Plate 4-2 North aspect of farmhouse



Plate 4-3 Window frame containing bat droppings

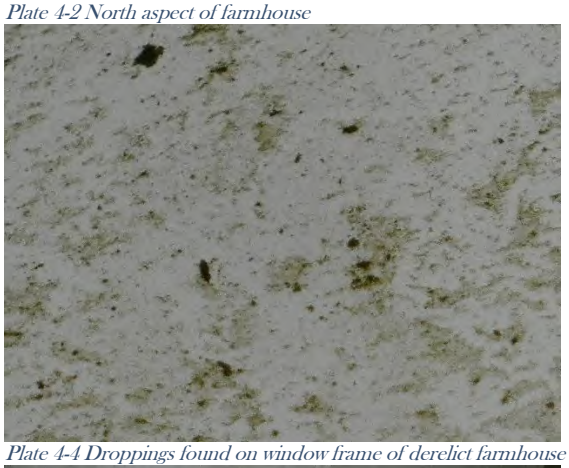


Plate 4-4 Droppings found on window frame of derelict farmhouse



Plate 4-5 First floor ceiling with roosting potential



Plate 4-6 Fireplace in derelict farmhouse



Plate 4-7 North aspect of adjoining shed



Plate 4-8 Interior of adjoining shed

4.3.2.1.2 Archaeological stone structure

An archaeological stone structure is located approximately 235 m northeast of T05 (Grid Ref: S 42172 74107). The structure is heavily vegetated, with only limited sections of the northern stonework visible. A thermal camera was used to check for any signs of roosting bats, and small gaps in the stonework on the northern side were examined with an endoscope. No evidence of bats was found. However, due to the dense ivy cover and limited visibility, the structure was precautionarily assessed as having *Low* roosting potential—i.e. A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year (Collins, 2023).



Plate 4-9 North aspect of archaeological stone structure

4.3.2.1.3 Inhabited farmhouse with adjoining shed

An inhabited farmhouse with an adjoining shed is located in the south of the Site, approximately 735 m south of T7 (IG Ref: S 42868 72354). The buildings are of stone block construction, with the farmhouse featuring a slate roof and the adjoining shed covered by a corrugated metal roof (Plates 4–10 & 4-11). Internal access to the structures was not available; therefore, a detailed external inspection was undertaken using binoculars and a thermal camera to identify potential access points and signs of roosting bats.

Several potential access points were noted on the shed, including open windows and gaps in other boarded-up windows. Damage to the gable on the western aspect of the shed was also observed, offering additional access and roosting potential (Plate 4–12). Dense ivy cover on the western shed wall may have obscured further PRFs. In contrast, the roof of the inhabited dwelling appeared to be in good condition, with no visible access points for bats. Bright security lighting was active around the dwelling during the dusk emergence survey, which may reduce the suitability of the area for bats (Plates 4–13 & 4-14).

The farmhouse and adjoining shed was assessed as having *Low* roosting potential – i.e., A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year (Collins, 2023).

Several corrugated metal farm sheds are also present near the farmhouse (Plates 4–15 to 4-17). These were subject to internal and external inspection, and no evidence of bat roosting was recorded. All sheds were assessed as having *Negligible* roosting potential, i.e. Negligible habitat features on site likely to be used by roosting bats (Collins, 2023).



Plate 4-10 North aspect of inhabited farmhouse and adjoining shed.



Plate 4-11 West aspect of adjoining shed with dense ivy cover.

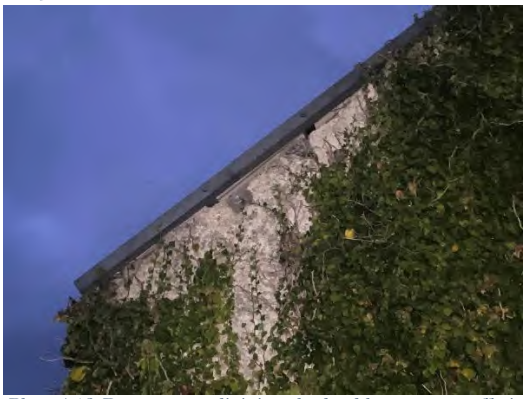


Plate 4-12 Damage to adjoining shed gable structure offering access and roosting potential.



Plate 4-13 Example of security lighting on the premises.

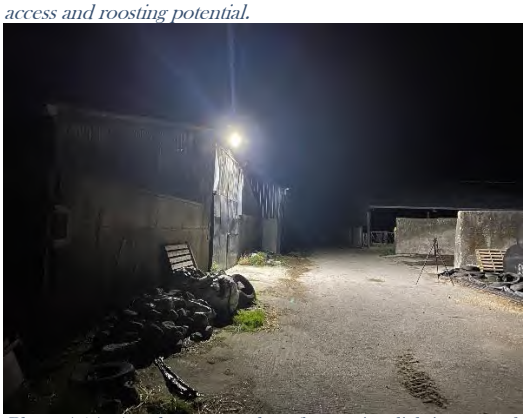


Plate 4-14 Another example of security lighting on the premises.



Plate 4-15 Corrugated metal hay storage shed.



Plate 4-16 Large corrugated metal shed storing machinery.



Plate 4-17 Interior of one of the corrugated metal hay sheds.

4.3.2.1.4 *Potential roost features outside the Site*

In addition to the three structures located within the Site, a further seven structures with potential roost features were identified and assessed in 2023 and 2024 at locations outside the defined Site boundary. These structures are situated between approximately 100 m and 1,225 m from the Site edge and between 530 m and 1,545 m from the nearest proposed turbines.

Farmhouse (IG Ref: S 40657 74435)

Located approximately 500 m west of the Site, this inhabited farmhouse was assessed externally due to internal access constraints. The structure exhibited some minor damage to the roof structure presenting access for bats and was considered to have *Moderate* roosting potential (Plates 4-18 & 4-19).



Plate 4-18 South aspect of farmhouse.



Plate 4-19 East aspect of farmhouse.

Farm Sheds (IG Ref: S 40653 74453)

Several stone and corrugated metal sheds were located adjacent to the farmhouse and were subject to internal and external inspection. No evidence of bat use was recorded during the assessments. However, one stone shed contained felt underlining which could provide roosting opportunities and was therefore assessed as having *Low* roosting potential (Plates 4-20 & 4-21). All remaining sheds were considered to have *Negligible* suitability for roosting bats (e.g. Plates 4-22 & 4-23).



Plate 4-20 Stone shed north of the farmhouse.



Plate 4-21 Felt underlining within shed.



Plate 4-22 Corrugated metal shed assessed as Negligible.



Plate 4-23 Interior of Negligible shed.

Stone Ruins (IG Refs: S 40813 75109 & S 40793 75073)

These two small stone ruins, located approximately 400m northwest of the Site, were heavily degraded with limited structural cover. Vegetation and small crevices were present but offered minimal shelter. Both structures were assessed as having *Low* roosting potential (Plates 4-24 & 4-25).



Plate 4-24 Stone Ruin 1.



Plate 4-25 Stone Ruin 2.

Farm Shed 2 (IG Ref: S 42881 73750)

This stone block shed is located approximately 100m east of the Site boundary. Several accessible features were noted, including multiple gaps in the stonework. These were examined using an endoscope, but no evidence of bat activity was recorded. Based on the available features, the structure was assessed as having *Moderate* roosting potential (Plates 4-26 to 4-29).



Plate 4-26 West aspect of farm shed 2.



Plate 4-27 Interior of shed.



Plate 4-28 Gaps offering roosting potential within stone structure.



Plate 4-29 Other holes within stone structure.

Stone Farm Shed (IG Ref: S 42711 74392)

Located 300 m east of the Site boundary, this stone structure was heavily covered in vegetation and contained PRFs such as gaps in stonework and between the rafters and stone wall, and was assessed as having *Moderate* roosting potential. Evidence of bat presence was not recorded during inspection (Plates 30 & 4-31).



Plate 4-30 East aspect of stone farm shed.



Plate 4-31 Interior of stone farm shed.

Ivy-Covered Stone Structure (IG Ref: S 41081 71557)

Located approximately 1,225 m south of the Site boundary, this stone structure exhibited several gaps in the stonework that could provide roosting opportunities for bats. Dense ivy and vegetation cover obscured large portions of the structure, potentially concealing additional PRFs. Numerous butterfly wings were observed inside, indicating bat feeding activity. Based on the structural features and presence of feeding remains, the structure was assessed as having *Moderate* roosting potential (Plates 4-32 to 4-35).



Plate 4-32 Southwest aspect of structure.



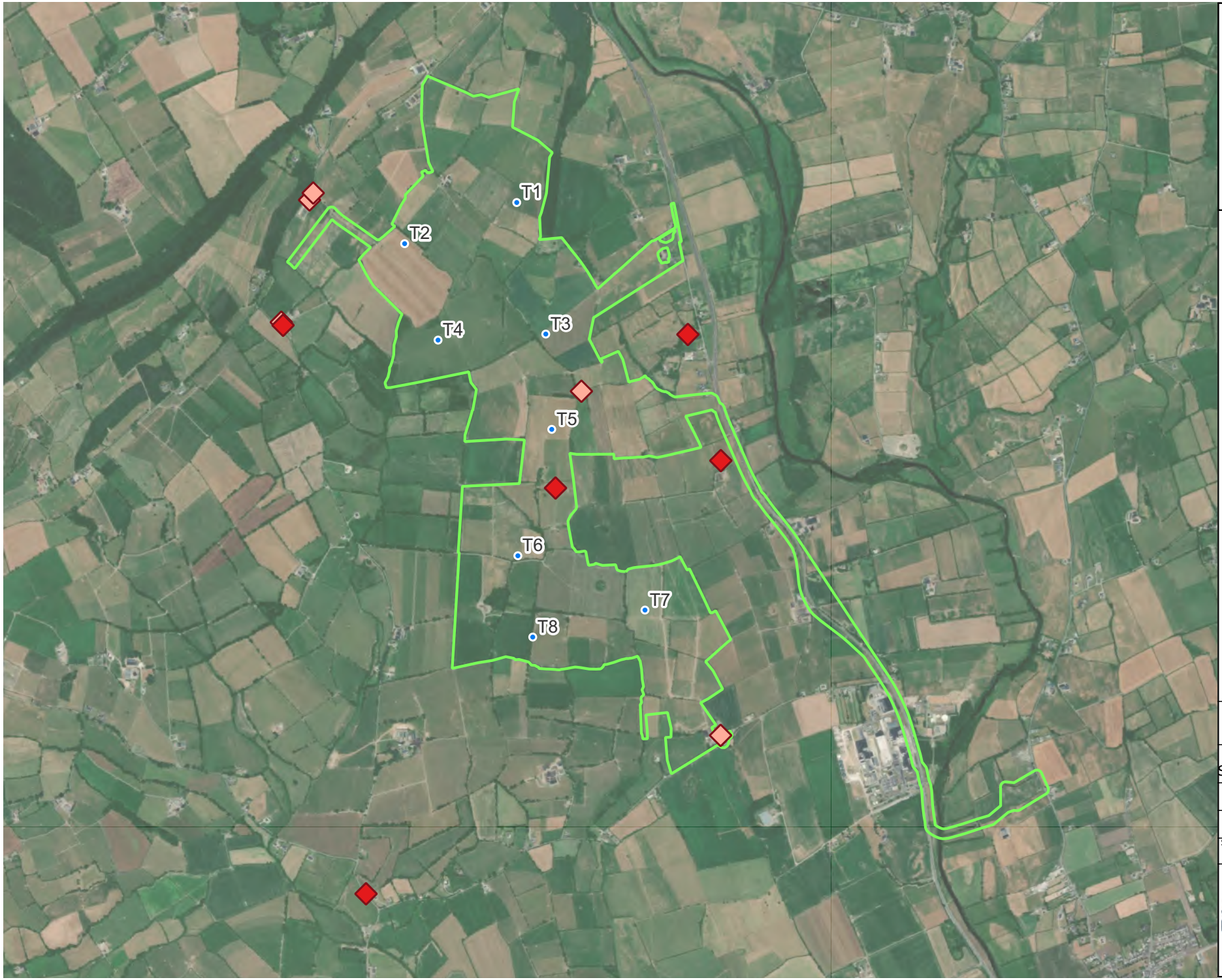
Plate 4-33 South aspect of structure.



Plate 4-34 Butterfly wings found in structure.



Plate 4-35 More feeding remains observed.



Map Legend

- EIAR Site Boundary
- Proposed Turbine Locations

Potential Roost Features

- Low
- Moderate

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Drawing Title
Potential Roost Features around the Site

Project Title
Seskin Renewables Wind Farm

Drawn By	Checked By
RC	AJ
Project No.	Drawing No.
231103	Figure 4-1
Scale	Date
1:25,000	2025-06-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie

4.3.2.1.5 *Ground-Level Tree Assessments* (GLTA)

Mature broadleaf tree species forming field boundaries within the Site consisted primarily of ash, oak, beech, and sycamore. The majority of trees within the Site will be retained as part of the Proposed Development; however, there will be some requirement to remove trees to facilitate the required bat buffers (outlined in Section 6.1.3). Included below is a summary of trees/tree groups of note within an approx. 87m radius (requiring removal) of the proposed turbine locations. Their general location, PRFs and respective suitability for bat roosting, are outlined in Table 4-8, illustrated in Figure 4-2 and shown in Plates 4-30 to 4-49 below.

Trees assessed ranged in roosting suitability from no potential *(None)* i.e. *Either no PRFs in the tree or highly unlikely to be any*, to *PRF-I* i.e. *PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats* (Collins, 2023).

Immature trees and hedgerow do not provide potential roosting habitat of significance for bats and as such were assessed as having no *(None)* roosting potential (Collins, 2023).

The trees assessed along the Proposed Grid Connection underground cabling route varied in their suitability to support roosting bats, with the majority being assessed as *Negligible*, and a small number as having *PRF-I* suitability. None of the trees assessed are designated for removal to facilitate the Proposed Grid Connection.

A treeline and hedgerow are located to the north and west of the proposed met mast site. The trees within the treeline vary in roosting suitability, ranging from *None* to *PRF-I*. No vegetation removal is planned for the installation of the proposed met mast.

Overall, the Site contains a number of mature trees and hedgerows. Some of these features will require removal to facilitate the bat buffer (see Section 6.1.3). Several trees proposed for removal provide potential suitable habitat for roosting bats. However, no evidence of roosting bats was identified during the ground level assessment.

Following the Further Information Request, a detailed reassessment of all trees proposed for removal to facilitate the required bat felling buffers was undertaken on 26th June 2026. The survey was carried out by two licensed bat ecologists with reference to Collins (2023) and the Bat Tree Habitat Key (Andrews, 2018). Trees were inspected from ground level and, where required and safely accessible, at closer range using binoculars, a high-powered torch, thermal imaging equipment, an endoscope and a ladder.

A total of 23 no. trees previously identified during the 2023 survey as supporting potential roost features (PRFs) were reassessed. The 2023 assessment adopted a precautionary approach and identified features including broken branches, wounds, apparent cavities and areas of ivy cover as potentially suitable for roosting bats. The more detailed 2026 assessment found that the majority of these features did not provide suitable roosting opportunities for bats. In several instances, apparent cavities or crevices were found on closer inspection to be superficial and did not extend into suitable sheltered spaces. Similarly, areas of ivy cover previously identified as having potential were found not to be sufficiently mature or structurally developed to provide suitable sheltered roosting opportunities. Where gaps were present beneath or within ivy cover, these were not considered suitable PRFs due to their configuration, lack of suitable shelter and/or inaccessibility to bats.

Following reassessment in accordance with the criteria set out in Table 4.2 of Collins (2023), 20 no. of the 23 no. trees were classified as having no suitability for roosting bats, while three trees were confirmed as supporting *PRF-I*s. Where safely accessible, the identified *PRF-I*s were subject to close inspection using an endoscope. No bats or evidence indicative of current or previous use by roosting bats, such as droppings or staining, were recorded during these inspections. Accordingly, no bat roosts were identified within the trees proposed for removal and based on the findings of the 2026 reassessment, a derogation licence is not currently required in respect of the proposed tree felling.

As outlined in Section 6.1.4 (Confirmatory Pre-construction Tree Survey), a precautionary pre-felling inspection will be undertaken prior to the removal of the three identified *PRF-I* trees to confirm their condition and roosting potential at that time. This does not represent a lacuna in the survey effort but constitutes a precautionary measure that recognises that the condition of trees and their potential suitability

for roosting bats can change over time. Should a bat roost be identified during the pre-felling inspection, the tree will not be felled until the appropriate mitigation, and licensing requirements have been determined and, where required, a derogation licence has been obtained from the NPWS. The results of the 2026 reassessment are presented in Table 4-8 and Figure 4-2.

Table 4-8 Summary of Trees/Tree Groups Inspected within the Site in 2023/2024 and 2026

Nearest Turbine	Hedgerow/Tree Features	Hedgerows/Trees to be removed	2023/2024 GLTA Classification	2026 GLTA Reassessment (including additional notes and photographs of *PRF-Is*)
T01	*N/A. Heavily managed hedgerow*	*Portion of hedgerow 1A to the north to be removed.*	• *None*	• *None – no PRFs identified.*
T02	*Dense ivy cover and broken limbs*	*Treeline 2A northeast of T02 to be largely removed.*	• *4 PRF-I*	• *1 no. PRF-I (Irish Grid Ref.: S 41253 74923): mature oak with well-established ivy cover providing suitable, sheltered and accessible roosting opportunities. No bats or evidence of use by bats were recorded during the endoscope inspection.* 
T03	*Dense ivy cover, broken and dead limbs*	Section of 3A and 3B west of T03 to be removed.	• *8 PRF-I*	• *None – no PRFs identified.*
T04	N/A, comprised of managed hedgerow and small clusters of scrub.	Sections of 4A and 4B to be removed. Scrub at 4C to be removed entirely.	• *None*	• *None – no PRFs identified.*
T05	N/A	No loss associated with turbine bat buffer.	• *None*	• *None – no PRFs identified.*
T06	Dense ivy cover	Section of 6D south of T06 to be removed.	• *2 PRF-I*	• *None – no PRFs identified.*
T07	*N/A*	No trees to be removed within bat buffer	• *None*	• *None – no PRFs identified.*
T08	*Broken limbs, dense ivy cover, wounds, cavities*	Section of 8B west of T08 to be removed.	• *9 PRF-I*	• *1 no. PRF-I (Irish Grid Ref.: S 41916 72911): Mature ash with well-established ivy cover, including thick woody ivy stems providing suitable, sheltered gaps between the ivy and the tree trunk. A broken limb with associated cracks was also present adjacent to the ivy cover, providing additional*

				potential roosting opportunities for bats. No bats or evidence of use by bats were recorded during the endoscope inspection.  • *1 no. PRF-I (Irish Grid Ref.: S 41912 72852): Mature ash supporting two potential roost features, comprising a rot hole associated with localised decay and a larger cavity. Both features provided sheltered spaces potentially suitable for a small number of roosting bats and were inspected using an endoscope. No bats or evidence of use by bats were recorded during the inspection.* 
Proposed Grid Connection	*N/A*	No removal proposed.	• *None*	• *None – no PRFs identified.*
Met Mast	N/A	No removal proposed.	• *None*	• *None – no PRFs identified.*



Plate 4-36 T02 – Ash tree with broken limb and dense ivy cover



Plate 4-37 T02 Ash tree with broken limbs and ivy cover



Plate 4-38 T03 Ash tree with dense ivy cover and broken limbs



Plate 4-39 T03 Ash tree with dense ivy cover



Plate 4-40 T04 Ash tree with broken limbs and ivy cover



Plate 4-41 T05 Ash tree with tear out



Plate 4-42 T05 Ash tree with wound



Plate 4-43 T05 Ash tree with hazard beam



Plate 4-44 T06 Ash tree with dense ivy cover



Plate 4-45 T06 Ash tree with dense ivy cover



Plate 4-46 T08 Ash tree with knot hole



Plate 4-47 T08 Same ash with wound



Plate 4-48 T08 Ash tree with broken limbs, knot hole and ivy cover



Plate 4-49 Hedgerow north of proposed met mast



Map Legend

- EIAR Site Boundary
- Proposed Turbine Locations
- Bat Felling Buffer

Ground-Level Tree Assessmen

- None
- PRF-I

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Drawing Title
Ground-Level Tree Assessment

Project Title
Seskin Renewables Wind Farm

Drawn By	Checked By
KL	CM
Project No.	Drawing No.
231103	Figure 4-2
Scale	Date
1:21,000	16.07.2026

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie

4.3.2.2 Emergence Surveys

Following the initial roost suitability assessments detailed in Section 4.3.2.1, a series of dusk emergence surveys were undertaken to confirm the presence or absence of roosting bats at structures identified as having *Low* to *Moderate* potential to support roosting bats. Surveys were conducted across spring, summer, and autumn in 2023 and 2024 to capture seasonal variation in bat activity.

In spring and summer 2023, emergence activity was recorded at the derelict farmhouse and adjoining shed (IG Ref: S 42041 73614), which had previously been assessed as having *Moderate* roost suitability. During both surveys, two common pipistrelles were observed emerging—first from the shed itself and later from a southern first-floor window of the farmhouse, confirming this structure as a roost.

In autumn 2023, a dusk emergence survey was carried out at a farmhouse (IG Ref: S 40657 74435), also assessed as *Moderate* suitability. No bats emerged, although commuting and foraging activity by common and soprano pipistrelles was observed in the vicinity. During spring 2024, the same farmhouse and an adjacent farm shed (IG Refs: S 40657 74435 & S 40653 74453) were re-surveyed. No emergence was recorded from either structure; however, a common pipistrelle briefly entered and exited the farm shed, and Leisler's bats, common and soprano pipistrelles were recorded commuting and foraging nearby.

In summer 2024, a dusk emergence survey was undertaken at the archaeological stone structure (IG Ref: S 42172 74107), which was classified as having *Low* suitability. Although no emergence was observed, consistent foraging by 3–4 common and soprano pipistrelles was recorded, along with sporadic Leisler's bat passes overhead.

The final survey took place in autumn 2024 at an inhabited farmhouse and adjoining shed (IG Ref: S 42868 72354), assessed as having *Low* suitability. A soprano pipistrelle was observed emerging from a crack in the west-facing eaves of the shed, confirming it as a roost. In addition, a common pipistrelle was recorded echolocating faintly from within the shed, however, no emergence was observed.

Table 4-9 Emergence Survey Results 2023 & 2024

Structure	PRF Suitability	IG Ref	Survey Type	Date Surveyed	Survey Results
2023					
Derelict farmhouse and adjoining shed	*Moderate*	S 42041 73614	Dusk Emergence Spring 2023	17th May 2023	2no. common pipistrelles emerged from adjoining shed.
Derelict farmhouse and adjoining shed	*Moderate*	S 42041 73614	Dusk Emergence Summer 2023	28th June 2023	2no. common pipistrelles emerged from southern 1st floor window.
Farmhouse	*Moderate*	S 40657 74435	Dusk Emergence Autumn 2023	11th October 2023	No bats emerging.
2024					
Farmhouse and farm shed	*Moderate & Low*	S 40657 74435 & S 40653 74453	Dusk Emergence Spring 2024	30th May 2024	No bats emerged from either structure. A common pipistrelle flew into the farm shed briefly before exiting shortly after.
Archaeological stone structure	*Low*	S 42172 74107	Dusk Emergence Summer 2024	25th July 2024	No bats emerged.
Inhabited farmhouse & adjoining shed	*Low*	S 42868 72354	Dusk Emergence Autumn 2024	23rd September 2024	Soprano observed emerging from crack in eave on west aspect of the adjoining shed.

4.3.3 Manual Transects

Manual transects were undertaken in spring, summer and autumn 2023. Bat activity was recorded in all seasons. A total of 1,049 bat passes were recorded, including emergence survey activity. In general, common

pipistrelle (n=761) was recorded most frequently, followed by soprano pipistrelle (n=177). *Myotis spp.* (n=78) and Leisler's bat (n=32) were less frequent with only one brown long-eared bat pass (n=1) (Plate 4-50).

Species composition and activity levels varied across the survey periods. Transect survey results were calculated as bat passes per km surveyed (to account for differences in survey effort). Plate 4-51 presents the results for individual species per survey period. Figures 4-3 – 4-5 present the spatial distribution of bat activity across surveys. Bat activity was concentrated along treelines, hedgerows, and linear (road/track) habitats. Common and soprano pipistrelle were most frequently recorded in spring and autumn 2023, whereas Leisler's bat was mainly detected during spring and summer. *Myotis spp.* species showed peak activity in summer, and brown long-eared bat was recorded only during the spring.

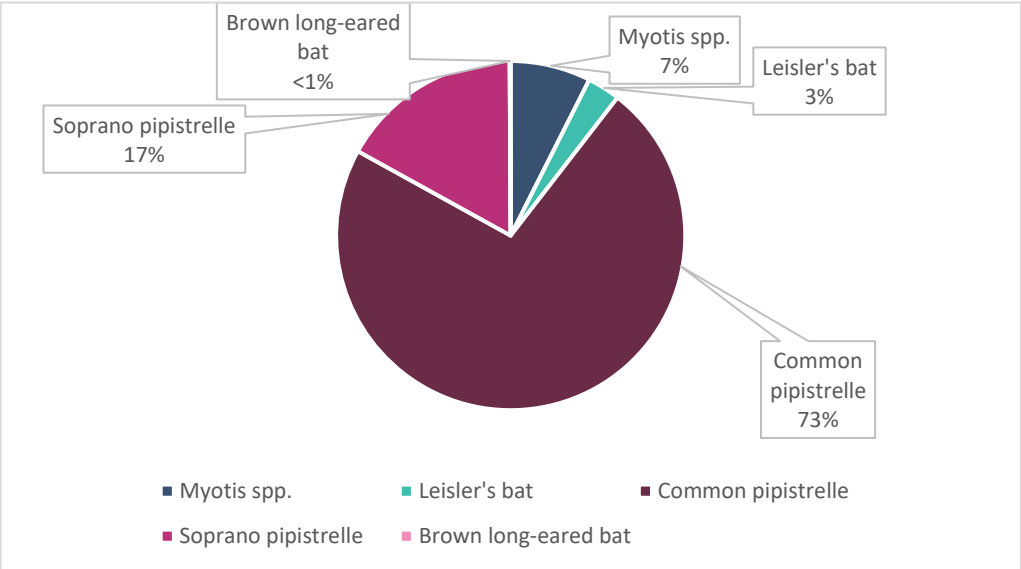

Plate 4-50 2023 Manual Activity Surveys (Total Species Composition)

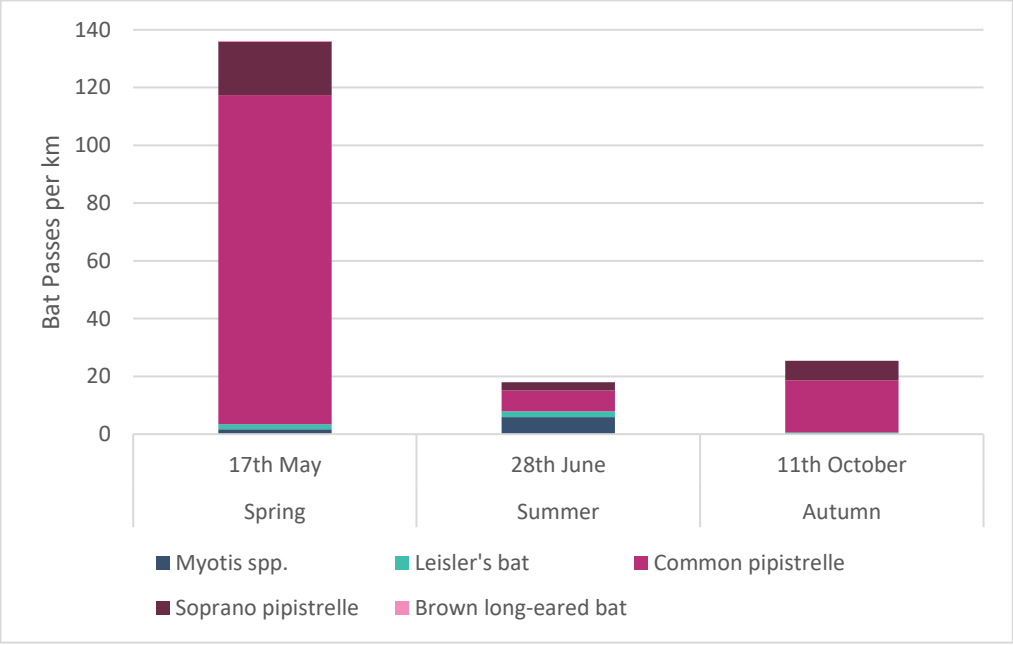

Plate 4-51 2023 Transect Results – Species Composition Per Survey Period



Map Legend

- EIAR Site Boundary
- Proposed Turbine Locations
- Spring Transect Route
  17th May 2023

Manual Spring Results

- Myotis spp.
- Leisler's bat
- Common pipistrelle
- Soprano pipistrelle
- Brown long-eared bat

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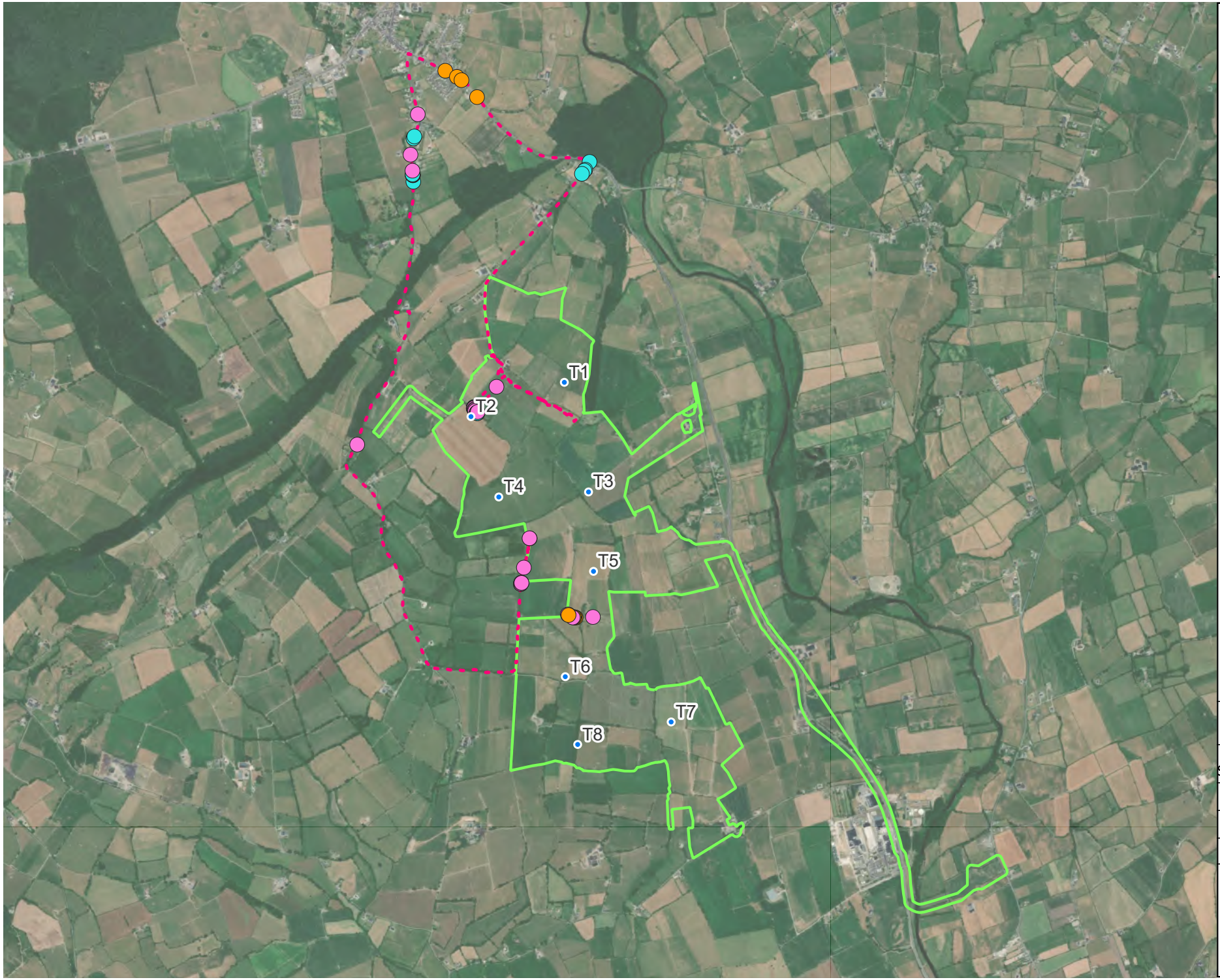
N

Drawing Title
Spring Manual Transect Results 2023

Project Title
Seskin Renewables Wind Farm

Drawn By	Checked By
RC	AJ
Project No.	Drawing No.
231103	Figure 4-3
Scale	Date
1:20,000	2025-06-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie



Map Legend

- EIAR Site Boundary
- Proposed Turbine Locations
- Summer Transect Route 28th June 2023

Manual Summer Results

- Leisler's bat
- Common pipistrelle
- Soprano pipistrelle

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N

Drawing Title
Summer Manual Transect Results 2023

Project Title
Seskin Renewables Wind Farm

Drawn By	Checked By
RC	AJ
Project No. 231103	Drawing No. Figure 4-4
Scale 1:30,000	Date 2025-06-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie



Map Legend

- EIAR Site Boundary
- Proposed Turbine Locations
- Autumn Transect Route
  11th October 2023

Manual Autumn Results

- Leisler's bat
- Common pipistrelle
- Soprano pipistrelle

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N

Drawing Title
Autumn Manual Transect Results 2023

Project Title
Seskin Renewables Wind Farm

Drawn By	Checked By
RC	AJ
Project No.	Drawing No.
231103	Figure 4-5
Scale	Date
1:25,000	2025-06-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie

4.3.4 Ground-level Static Surveys

In total, 183,141 bat passes were recorded across all deployments. In general, common pipistrelle (n=106,096) occurred most frequently, followed by soprano pipistrelle (n=63,201) and Leisler's bat (n=10,416). Instances of *Myotis spp.* (n=2,429), brown long-eared bat (n=555) and Nathusius' pipistrelle (n=444) were recorded less frequently during the 2023 survey period. Plate 4-52 presents relative species composition across all ground-level static detector surveys.

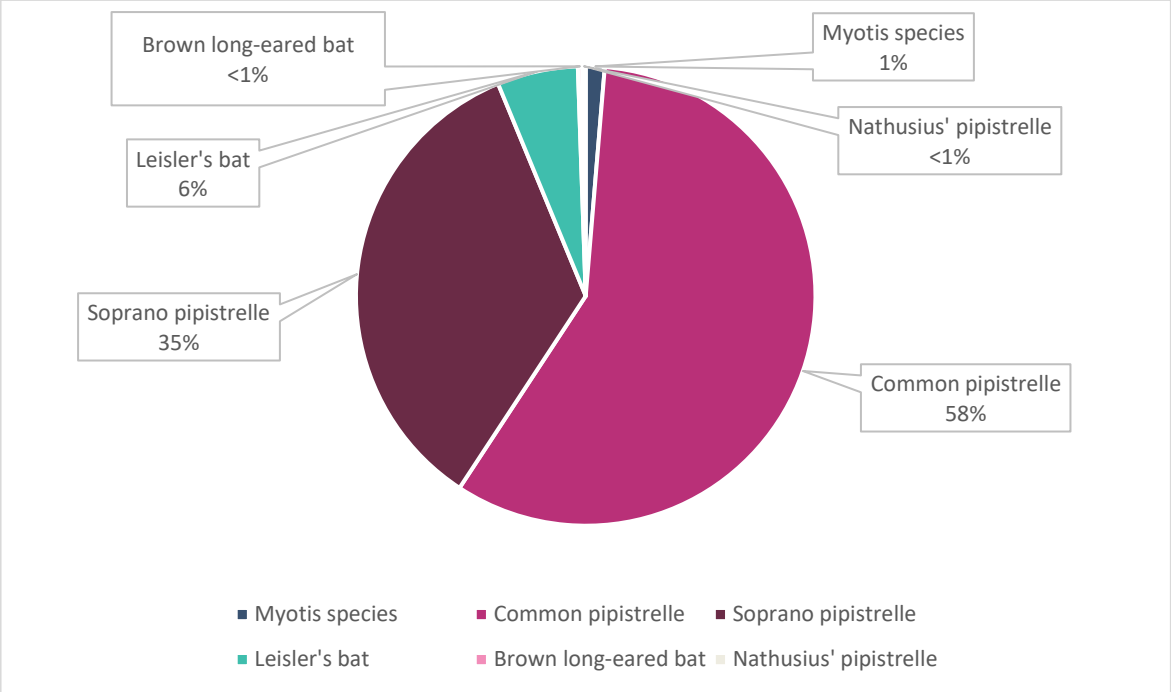


Plate 4-52 2023 Static Detector Surveys: Species Composition Across All Deployments (Total Bat Passes)

Bat activity was calculated as total bat passes per hour (bpph) per season to account for any bias in survey effort, resulting from varying night lengths between seasons. Table 4-10 presents these results for each species per season. Spring and summer activity was dominated by common pipistrelle with contributions from soprano pipistrelle and Leisler's bat. During the autumn, activity was more evenly distributed between common and soprano pipistrelle, with reduced representation from Leisler's bat. *Myotis spp.* were consistent but uncommon across the three seasons. Instances of brown long-eared bat and Nathusius' pipistrelle were relatively rare throughout the survey periods.

Table 4-10 Static Detector Surveys: Species Composition Across All Deployments (Total Bat Passes Per Hour, All Nights)

	Spring	Summer	Autumn
Total Survey Hours	**116.7**	**645.2**	**300.9**
Myotis spp.	3.4	1.6	3.4
Leisler's bat	21.7	7.1	11.0
Nathusius' pipistrelle	2.5	0.2	0.0
Common pipistrelle	158.2	83.5	112.3
Soprano pipistrelle	29.9	37.8	117.3
Brown long-eared bat	2.0	0.3	0.5

The Median Bat Pass Rate per detector, per survey period is shown in Plates 4-53 & 4-54 (varied axis scale) and demonstrates clear seasonal and spatial variation in bat activity. In spring, activity was highest at D02 (98.8 bpph), with notable levels also at D04 (26.1 bpph) and D08 (25.7 bpph), while the remaining detectors recorded low activity. Summer showed the highest overall bat activity, led by D03 (161.1 bpph), followed by D02 (106.7 bpph), D06 (60.7 bpph), and D07 (43.8 bpph); in contrast, D01, D04, and D05 recorded minimal activity. In autumn, D03 remained the most active site (71.5 bpph), with moderate activity at D06 (48.6 bpph) and D07 (38.0 bpph), and reduced levels elsewhere.

The Median Nightly Pass Rate (i.e. total bat passes per hour, per night) was used to determine typical bat activity at the Site (Plate 4-55). Activity was often variable between survey nights. Plates 4-56 to 4-58 (varied axis scales) illustrates the Median Nightly Pass Rate per species, per deployment. Therefore, the Median Nightly Pass Rate was used as the most appropriate measure of bat activity (Lintott & Mathews, 2018). Zero data, when a species was not detected on a night, was also included.

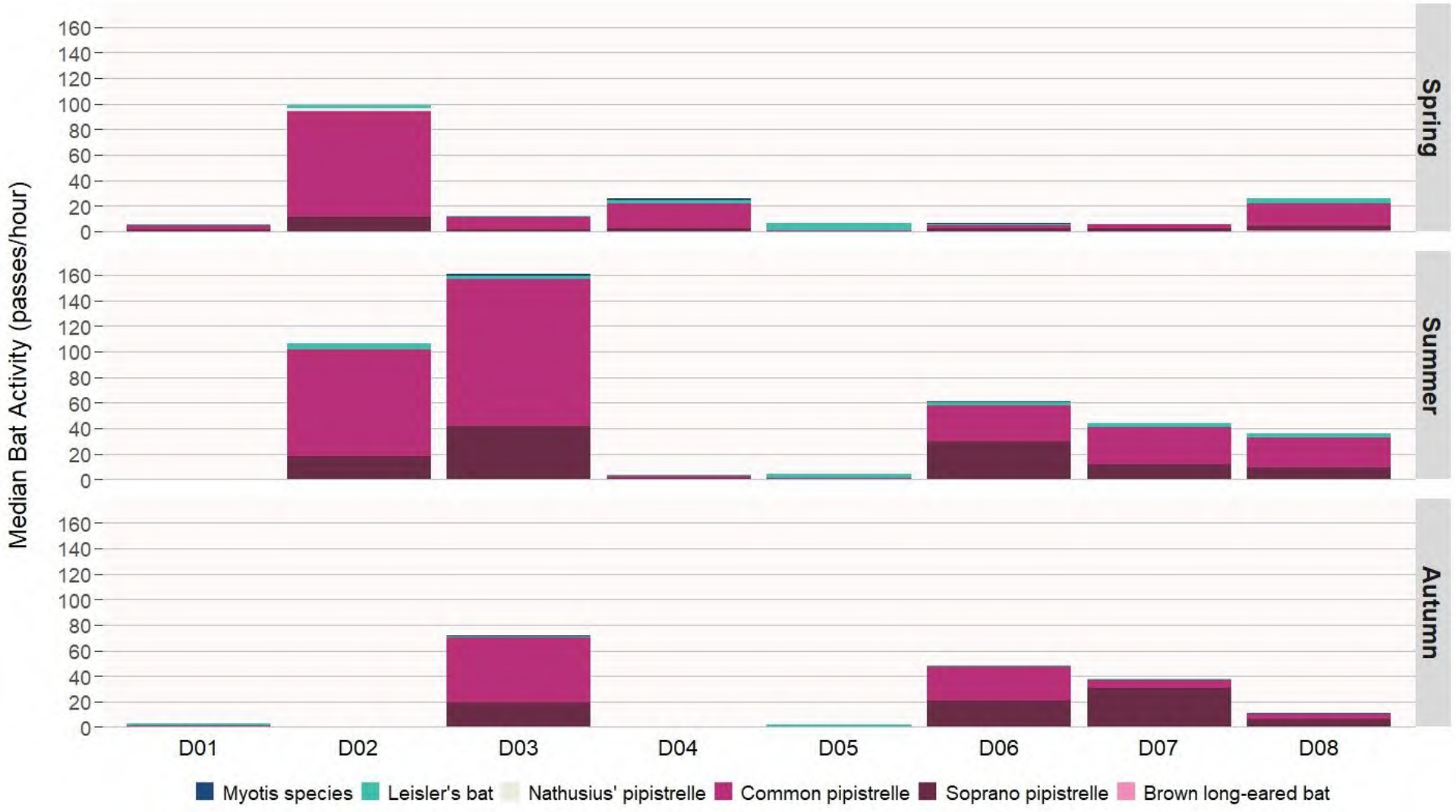


Plate 4-53 Static Detector Surveys: Median Bat Pass Rate (bpph) Including Absences, Per Location Per Survey Period.

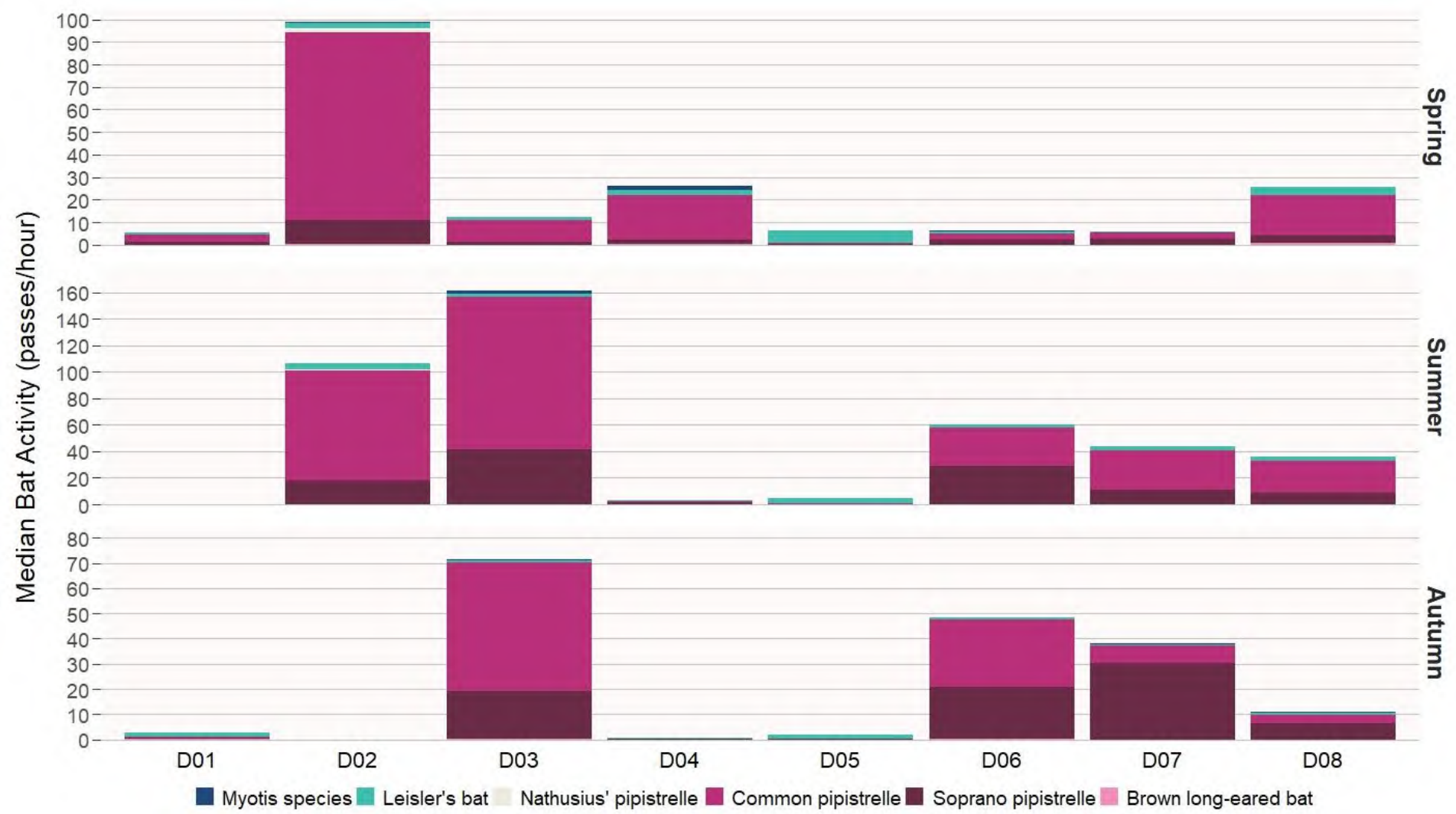


Plate 4-54 Static Detector Surveys: Median Bat Pass Rate (bpph) Including Absences, Per Location Per Survey Period (Varied Axis Scale).

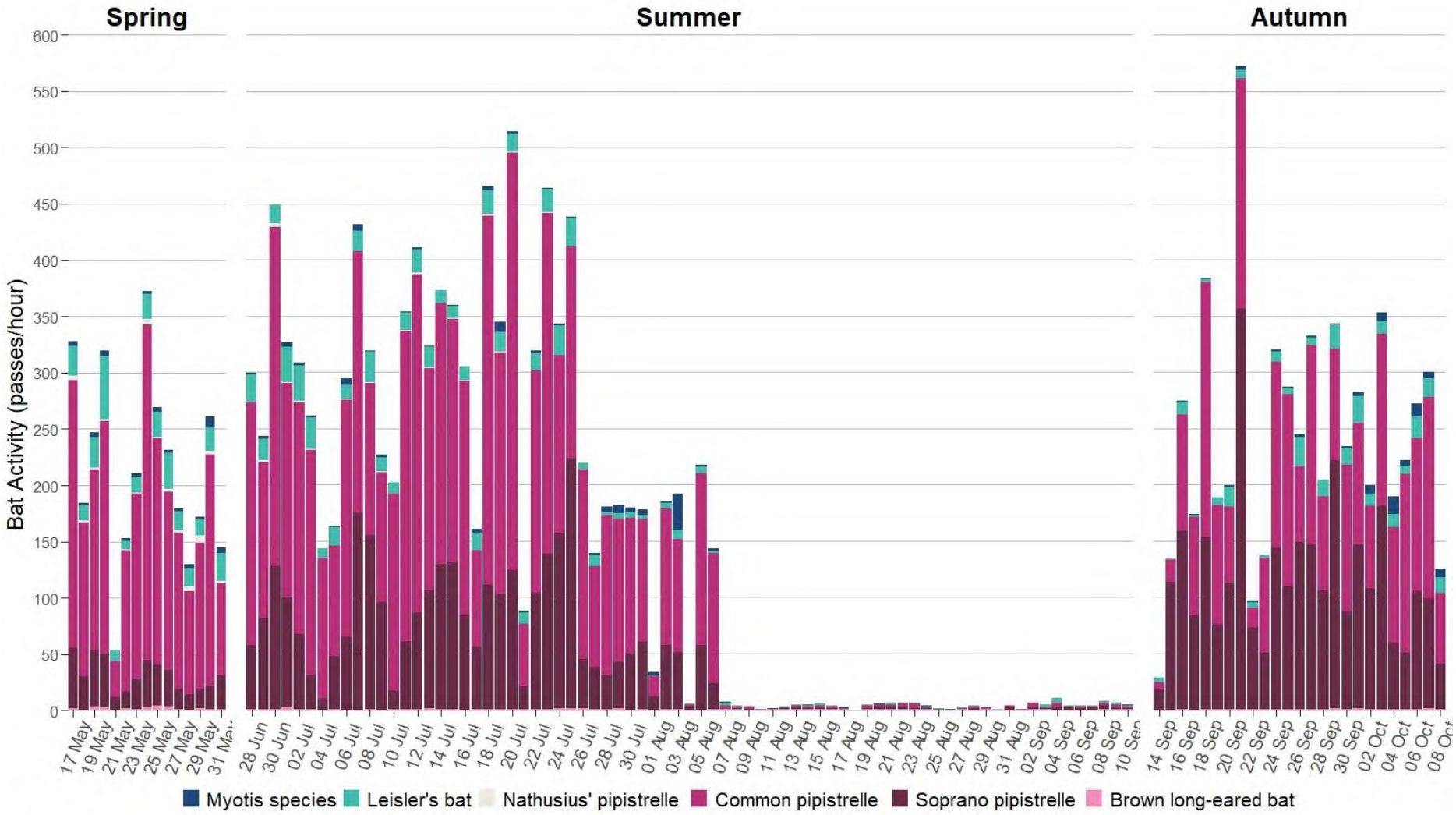


Plate 4-55 Static Detector Surveys: Median Bat Pass Rate (bpph) Including Absences, Per Season Per Night (plus redeployed D03 & D04)

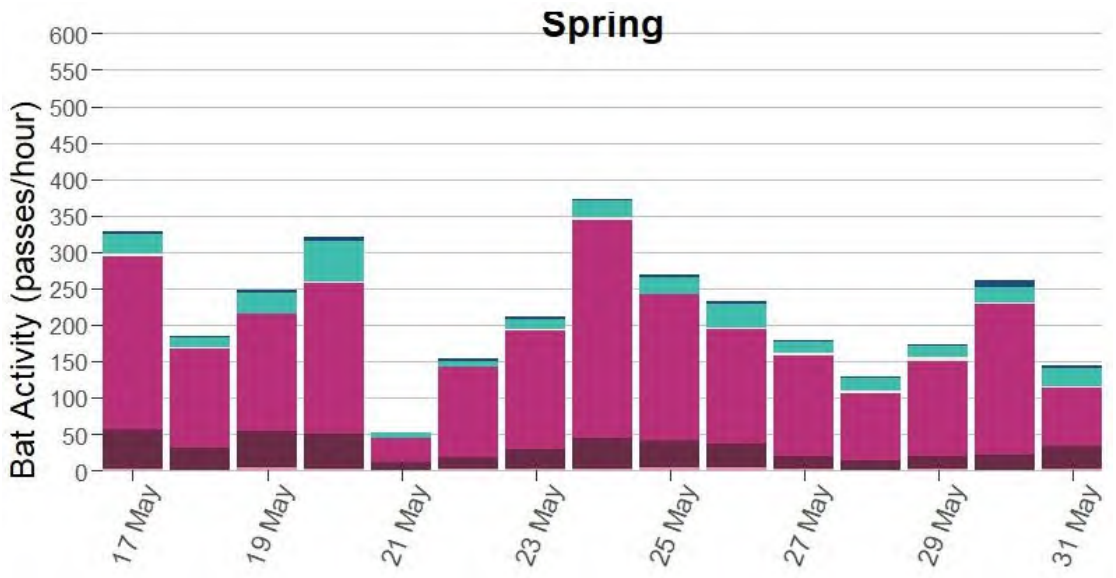


Plate 4-56 Static Detector Surveys: Spring Median Bat Pass Rate (bpph) Including Absences, Per Night

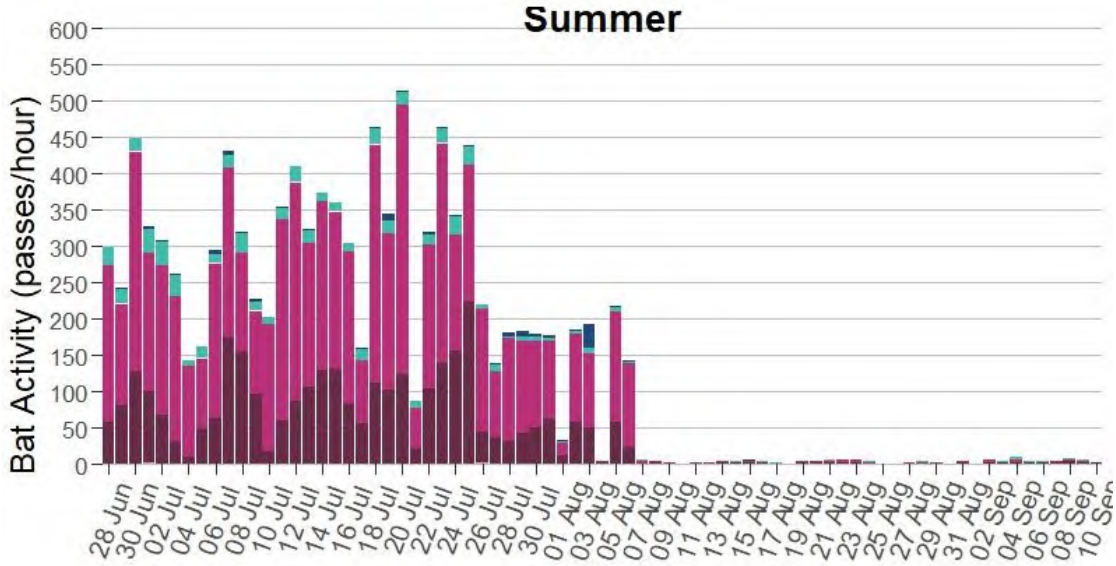


Plate 4-57 Static Detector Surveys: Summer Median Bat Pass Rate (bpph) Including Absences, Per Night (plus redeployed D03 & D04)

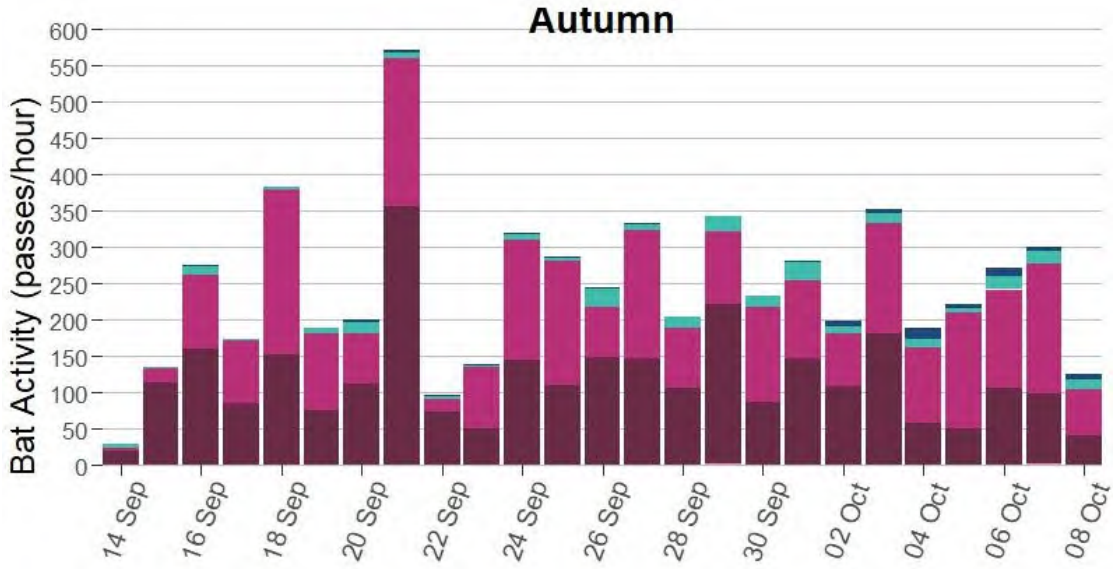


Plate 4-58 Static Detector Surveys: Autumn Median Bat Pass Rate (bpph) Including Absences, Per Night

4.4 Assessment of Bat Activity Levels 2023

4.4.1 Adapted Site-specific Ranges

Low, *Moderate* and *High* activity levels were assigned to median and maximum pass rates (bpph) identified during spring, summer and autumn at the detectors deployed across the Site, as adapted from Mathews *et al.* (2016). Table 4-11 shows the results of the site-level assessment as calculated on a site-specific activity level. Where no maximum activity at a detector is reported, no data was recorded for that species throughout the deployment.

Leisler's bat generally exhibited *Low* to *Moderate* median activity across spring and summer, with activity levels dropping to *Low* in autumn. The highest median activity was observed at detector D05 during spring, reaching 5.5 bat passes per hour (bpph), classified as *High*, with a corresponding maximum of 9.8 bpph. This was the only *High* median activity recorded for the species across all detectors in 2023. Median rates declined to *Low* at all locations in autumn.

Common pipistrelle demonstrated predominantly *Moderate* median activity throughout the year, punctuated by several notable *High* outliers. In spring, D02 recorded a *High* median of 83.4 bpph (maximum 128.0 bpph). During summer, both D02 and D03 registered *High* medians of 83.1 bpph and 114.7 bpph, respectively. In autumn, D03 again showed *High* median activity at 50.9 bpph, with a maximum of 137.0 bpph. All other detectors remained within the *Moderate* or lower activity range.

Soprano pipistrelle activity remained mostly within the *Low* to *Moderate* range. A single *High* median value was recorded at D03 in autumn (41.6 bpph, maximum 59.2 bpph). Spring median activity was uniformly *Low*, while summer and autumn showed a mix of *Low* to *Moderate* readings.

Myotis species exhibited *Low* median activity across most detectors and seasons. Only two *Moderate* medians were recorded—at D04 in spring (1.9 bpph) and D03 in summer (2.3 bpph). However, notable maximum values were recorded at D03, with 32.3 bpph in summer and 14.5 bpph in autumn, both within the *High* range, indicating infrequent but concentrated activity.

Brown long-eared bats were generally within the *Low* median activity category throughout the year. *Moderate* median activity was recorded in spring at D02 and D04, while D08 exhibited a *High* median activity in spring (0.7 bpph; maximum 3.4 bpph).

Nathusius' pipistrelle activity was largely absent, with zero median activity recorded at most detectors in all seasons. The only exceptions were at D02 in spring, with a *High* median of 1.7 bpph (maximum 5.3 bpph), and in summer, with a *Moderate* median of 0.4 bpph (maximum 2.9 bpph).

Common pipistrelle was the most consistently active species across the site, with multiple *High* median records throughout the year, especially at D02 and D03. Leisler's bat, soprano pipistrelle, and *Myotis spp.* showed more sporadic or location-specific *High* activity levels. Nathusius' pipistrelle and brown long-eared bat activity was minimal and restricted to isolated detections. Overall, bat activity patterns suggest a spatial and temporal variation in species presence and intensity, with a few key detectors (notably D02, D03, and D05) recording the highest activity rates.

Table 4-11 Median Nightly Bat Activity (bpph) per Species, per Season, per Detector Location 2023 Low, Moderate, High

2023 Season	Detector	*Myotis spp.*		Leisler's bat		Nathusius' pipistrelle		Common pipistrelle		Soprano pipistrelle		Brown long-eared bat	
		Median Bat Activity	Max Bat Activity	Median Bat Activity	Max Bat Activity	Median Bat Activity	Max Bat Activity	Median Bat Activity	Max Bat Activity	Median Bat Activity	Max Bat Activity	Median Bat Activity	Max Bat Activity
Spring	D01	0	0.1	1	5.7	0	0.1	3.1	36.1	1.4	4.5	0	0
	D02	0.2	3.6	2.5	11.2	1.7	5.3	83.4	128	10.7	30.5	0.3	0.7
	D03	0.1	0.9	1.2	3.1	0	0.3	9.7	18.9	1.3	8	0.1	0.8
	D04	1.9	4.3	2.3	20.9	0.1	0.6	19.5	80.7	2.1	6.5	0.2	0.8
	D05	0	0.2	5.5	9.8	0	0.3	0.6	5.4	0.3	1.5	0	0.3
	D06	0.1	0.3	1.1	3.4	0	0.2	2.6	29.6	2.3	7.4	0	0.2
	D07	0.1	1.3	0.5	2.5	0	0.1	2.6	11.9	2.7	7.2	0	0.2
	D08	0.1	2.1	3.5	10.1	0.3	1	17.7	51.8	3.4	9.3	0.7	3.4
Summer	D01	0	0.1	0	4.8			0	0.7	0	0.1	0	0.3
	D02	0.3	7.6	4.7	11.1	0.4	2.9	83.1	166.4	18.2	90.5	0	0.4
	D03	2.3	32.3	2.5	8.5	0	0	114.7	152.9	41.6	59.2	0	0.6
	D04	0.1	0.5	0.8	3.7	0	0.1	1.1	4.5	1.2	3.8	0.1	0.5
	D05	0	0.5	3.8	10			0.4	4.4	0.3	1.6	0	0.1
	D06	0.4	5.6	2.2	7.5	0	0.1	28.9	103.3	29.2	128.4	0	0.7
	D07	0.1	1.3	2.7	5.8	0	0.1	29.8	142	11.2	33.2	0	1.9
	D08	0	0.6	3.1	8.7	0	1.3	23.9	107.2	9	48.7	0	0.6
Autumn	D01	0	0.3	1.5	13.4			0.7	25.8	0.5	10.2	0.1	0.4
	D02	0	0.1	0	0.1	0	0	0	30.6	0	9.9		
	D03	0.4	14.5	1	5.5	0	0.1	50.9	137	19.1	83.7	0.1	0.3
	D04	0	0.3	0.4	1.8			0.1	1.1	0.3	5.1	0	0.4
	D05	0	0.1	1.3	15.6			0.3	4.4	0.2	1.7	0	0.2
	D06	0.2	0.8	0.8	4.7	0	0.2	26.7	58.4	20.8	113	0.1	0.5
	D07	0.2	0.7	0.6	2.5	0	0.1	6.7	34.1	30.5	158	0	0.2
	D08	0.3	1.6	0.6	3.2			3.5	63.3	6.4	39.8	0	0.6

4.5 Importance of Bat Population Recorded at the Site

Ecological evaluation within this section follows a methodology that is set out in Chapter three of the '*Guidelines for Assessment of Ecological Impacts of National Roads Schemes'* (NRA, 2009).

All bat species in Ireland are protected under the Bonn Convention (1992), Bern Convention (1982) and the EU Habitats Directive (92/43/EEC). Additionally, in Ireland bat species are afforded further protection under the Birds and Natural Habitats Regulations (2011) and the Wildlife Acts 1976, as amended. Bats as an Ecological Receptor have been assigned ***Local Importance (Higher value)*** on the basis that the habitats within the Site are utilized by a regularly occurring bat population of Local Importance.

During the 2023 and 2024 surveys, two roosts containing common and soprano pipistrelles were identified. However, these roosts were characterized by limited emergences, with only single-digit counts observed. No roosting site of National Importance (i.e. site greater than 100 individuals) was recorded within the Site during the 2023 or 2024 surveys.

5. RISK AND IMPACT ASSESSMENT

This risk and impact assessment has been undertaken in accordance with NatureScot Guidance. As per the NatureScot Guidance, wind farms present four potential risks to bats:

- Collision mortality, barotrauma and other injuries
- Loss or damage to commuting and foraging habitat
- Loss of, or damage to, roosts
- Displacement of individuals or populations

For each of these four risks, the detailed knowledge of bat distribution and activity within the Site has been utilized to predict the potential effects of the Proposed Development on bats.

5.1 Collision Mortality

5.1.1 Assessment of Site-Risk

The likely impact of a proposed development on bats is related to site-based risk factors, including habitat and development features. The site risk assessment, as per Table 3a of the NatureScot guidance, is provided in Table 5-1 below.

Table 5-1 Site-risk Level Determination for the Proposed Development (Adapted from NatureScot, 2021)

Criteria	Site-specific Evaluation	Site Assessment
Habitat Risk	Two low-value roosts (≤10 specimens) containing common and soprano pipistrelles were identified within the Site. One other PRF structure within the Site was surveyed, and no evidence of the presence of roosting bats was identified. ~~A number of~~ Three trees with *PRF-I* potential as roost sites on or near the Site turbine locations. The habitats within the Site provide suitable commuting and foraging habitat for bats and is connected to the wider landscape by linear features such as tree lines, hedgerows and streams. Despite the presence of these linear features, it does not provide an extensive and diverse habitat mosaic of high quality or meet any of the criteria of a High risk site as set out in Table 3a of NatureScot, 2021.	Medium
Project Size	Following the criteria set out in NatureScot, 2021 the project is of Small scale as it consists of <10 turbines (8 no. turbines). However, since these turbines exceed 100m in height, the project falls into the Medium project size category. The project is not a strategic infrastructural development and is well below the number of turbines that would constitute a Large development (NatureScot, 2021). The project has therefore been assessed as being of Medium size. There are three wind energy developments within 5km and one within 10km of the Site.	Moderate
Site Risk Assessment (from criteria in Plate 3-3)		**Medium Site Risk (3)**

The Site is located in an area of predominantly Improved Agricultural Grassland with broadleaf treelines and hedgerows forming field boundaries throughout the Site. As per Table 3a of the NatureScot Guidance (2021), the Site has a *Moderate* habitat risk and *Medium* project size (Small scale development including 8 turbines but comprised of turbines >100m in height). The cross tabulation of a ***Medium*** project on a ***Moderate*** risk site results in an overall risk score of ***Medium*** (NatureScot Table 3a).

5.1.2 Assessment of Collision Risk

The following high-risk species were recorded during the dedicated surveys:

- Leisler's bat,
- Common pipistrelle
- Soprano pipistrelle
- Nathusius' pipistrelle

The Overall Risk Assessment for high collision risk species is provided in the sections below. Overall Risk was determined, in accordance with Table 3b of NatureScot 2021 guidance (**Appendix 3**), by a cross-tablature of the site risk level (i.e. Medium). The assessment was carried out for both median and maximum activity categories in order to provide insight into typical bat activity (i.e. median values) and activity peaks (i.e. maximum values). NatureScot recommends that the most appropriate activity level (i.e. median or maximum) be utilised to determine the overall risk assessment for a species.

As per NatureScot guidance there is no requirement to complete an Overall Risk Assessment for low-risk species. During the extensive suite of surveys undertaken the following low risk species were recorded:

- *Myotis spp.*
- Brown long-eared bat

Overall activity levels for brown long-eared bat and *Myotis spp.* were generally low. While there was High median activity recorded for brown long-eared bat at D08 in spring, the overall activity levels for the species were low; therefore, no significant collision related effects are anticipated. Loss of habitat is assessed further in Section 5.2 and 5.3. below. Activity levels for these species will continue to be assessed during operational monitoring following the implementation of best practice mitigations provided. Further mitigation will be implemented after Year 1 if deemed necessary.

5.1.2.1 Leisler's bat

The Site is within the current range of the Leisler's bat (NPWS, 2025 ~~2019~~). Leisler's bats are classed as a rarer species of a high population vulnerability which have a high collision risk (Plate 3-2). Leisler's bats were recorded during all activity surveys across the Site. When assessed in the context of the identified site risk and in line with Table 3b (NatureScot, 2021), overall activity risk for Leisler's bat was found to be ***Low-Moderate*** in spring, **Moderate** in summer, and ***Low*** in autumn at median activity levels. Maximum activity ranged from ***Moderate*** in the autumn to ***High*** in summer. (See Table 5-2 below).

Based on site visit and survey data, including transects, it is determined that the Typical Activity (i.e. Median) is reflective of the nature of the Site, which is primarily agricultural grassland with treelines and hedgerows at field boundaries with low levels of bat activity recorded during the walked transects undertaken at the Site.

Thus, the overall collision risk level for the local population of Leisler's bat is generally assessed as ***Low-Moderate*** across all seasons and detectors with the sole exception of D05, which was assessed as having a ***High*** individual collision risk level in spring.

Table 5-2 Leisler's bat - Overall Risk Assessment

Survey Period	Site Risk	Typical Activity (Median)	Typical Risk Assessment (as per Table 3b NatureScot 2021)	Activity Peaks (Maximum)	Peak Risk Assessment (as per Table 3b NatureScot 2021)
Spring 2023	Medium (3)	Low-Moderate (2)	Typical Risk is Medium (6)	Moderate-High (4)	Peak Risk is Medium (12)
Summer 2023		Moderate (3)	Typical Risk is Medium (9)	High (5)	Peak Risk is High (15)
Autumn 2023		Low (1)	Typical Risk is Low (3)	Moderate (3)	Peak Risk is Medium (9)

5.1.2.2 Soprano pipistrelle

The Site is within range for soprano pipistrelle bat (NPWS, 2025 ~~2019~~). Soprano pipistrelle are classed as a common species of a medium population vulnerability which have a high potential collision risk (Plate 3-2). Soprano pipistrelle was recorded during activity surveys across the Site. When assessed in the context of the identified site risk and in line with Table 3b (NatureScot 2021) overall activity risk for soprano pipistrelle was found to be ***Low*** at median activity levels for spring, and ***Medium*** for summer and autumn. Peak activity levels were identical to the median values, as outlined in Table 5-3 below.

Based on site visit and survey data, including transects, it is determined that the Typical Activity (i.e. Median) is reflective of the nature of the Site, which is primarily agricultural grassland, treelines/hedgerows with moderate levels of bat activity recorded during the walked transects undertaken at the Site.

Thus, there is ***Low - Medium*** collision risk level assigned to the local population of soprano pipistrelle in all seasons.

Table 5-3 Soprano pipistrelle - Overall Risk Assessment

Survey Period	Site Risk	Typical Activity (Median)	Typical Risk Assessment (as per Table 3b NatureScot 2021)	Activity Peaks (Maximum)	Peak Risk Assessment (as per Table 3b NatureScot 2021)
Spring 2023	Medium (3)	Low (1)	Typical Risk is Low (3)	Low (1)	Peak Risk is Low (3)
Summer 2023		Low-Moderate (2)	Typical Risk is Medium (6)	Moderate (3)	Peak Risk is Medium (9)
Autumn 2023		Low-Moderate (2)	Typical Risk is Medium (6)	Moderate (3)	Peak Risk is Medium (9)

5.1.2.3 Common pipistrelle

The Site is within the current range of the common pipistrelle bat (NPWS, 2025 ~~2019~~). Common pipistrelle are classed as a common species of a medium population vulnerability which have a high collision risk (Plate 3-2). Common pipistrelle were recorded during all activity surveys across the Site. When assessed in the context of the identified site risk and in line with Table 3b (NatureScot 2021); overall activity risk for common pipistrelle at Typical Activity levels was found to be ***Medium*** in all seasons in 2023. Peak risk levels for common pipistrelle was also found to be ***Medium*** in all seasons. (See Table 5-4 below).

Based on site visit and survey data, including transects, it is determined that the Typical Activity (i.e. Median) is reflective of the nature of the Site, which is primarily agricultural grassland with treelines and hedgerows delineating field boundaries with moderate levels of bat activity recorded during the walked transects undertaken.

Thus, there is a ***Medium*** collision risk level assigned to the local population of common pipistrelle in all seasons.

Table 5-4 Common pipistrelle - Overall Risk Assessment

Survey Period	Site Risk	Typical Activity (Median)	Typical Risk Assessment (as per Table 3b NatureScot 21	Activity Peaks (Maximum)	Peak Risk Assessment (as per Table 3b NatureScot 2021)
Spring 2023	Medium (3)	Low-Moderate (2)	Typical Risk is Medium (6)	Moderate - High (4)	Medium (12)
Summer 2023		Moderate (3)	Typical Risk is Medium (9)	Moderate - High (4)	Medium (12)
Autumn 2023		Low-Moderate (2)	Typical Risk is Medium (6)	Moderate (3)	Medium (9)

5.1.2.1 Nathusius' pipistrelle

The Site is within the current range of the Nathusius' pipistrelle bat (NPWS, 2025 ~~2019~~). Nathusius' pipistrelle bats are classed as a rarer species of a high population risk which have a high collision risk (Plate 3-4). Nathusius' pipistrelle activity was sporadic during activity surveys across the Site. When assessed in the context of the identified site risk and in line with Table 3b (NatureScot, 2021) overall activity risk for Nathusius' pipistrelle was found to be ***Low*** at median activity levels across all seasons. Maximum activity levels were also ***Low*** in summer and autumn, and ***Medium*** in spring (See Table 5-5 below).

Based on site visit and survey data, including transects, it is determined that the Typical Activity (i.e. Median) is reflective of the nature of the Site, which is primarily agricultural grassland with treelines and hedgerows along field boundaries, with no activity recorded during the walked transects undertaken.

Thus, there is ***Low*** collision risk level assigned to the local population of Nathusius' pipistrelle.

Table 5-5 Nathusius' pipistrelle - Overall Risk Assessment

Survey Period	Site Risk	Typical Activity (Median)	Typical Risk Assessment (as per Table 3b NatureScot 2021)	Activity Peaks (Maximum)	Peak Risk Assessment (as per Table 3b NatureScot 2021)
Spring	Medium (3)	Low (1)	Typical Risk is Low (3)	Low - Moderate (2)	Peak Risk is Medium (6)
Summer		Low (1)	Typical Risk is Low (3)	Low (1)	Peak Risk is Low (3)
Autumn		Low (1)	Typical Risk is Low (3)	Low (1)	Peak Risk is Low (3)

5.1.3 Collision Risk Summary

Site-level collision risk for high collision risk bat species was typically ***Low*** to ***Medium***. Overall bat activity levels were typical of the nature of the Site, which is predominantly agricultural grassland with treelines and hedgerows delineating field boundaries with moderate levels of bat activity recorded during the static detector surveys and the transects undertaken.

However, following per-detector R-analysis, Detectors D02, D03, and D05 recorded ***High*** Median Activity levels in either spring, summer, or autumn (see Table 5-6). During manual transect surveys, Leisler's bat activity was sporadic and rare, while soprano and common pipistrelle activity was more evenly distributed across the Site. Nathusius' pipistrelle was not recorded during the manual transects.

While ***High*** median activity was recorded at three locations, it is noted that habitats at these locations will change during the construction phase of the Proposed Development with the required implementation of the bat buffers (Section 6.1.3). A monitoring and mitigation strategy has been devised for the Proposed Development, in line with the case study example provided in Appendix 5 of the NatureScot 2021 Guidance and based on the site-specific data. After year 1 monitoring, if a curtailment requirement is identified, a curtailment programme, in line with relevant guidelines, will be devised around key activity periods and weather parameters, as well as a potential increase in buffers if deemed necessary.

Table 5-6 Detector Location Recording High Median Activity in 2023 for High-risk Bat Species

Detector ID	Turbine	Species	High Median Activity Survey Period
D02	T02	Common pipistrelle	Spring 2023
D02	T02	Common pipistrelle	Summer 2023
D03	T03	Common pipistrelle	Summer 2023
D03	T03	Common pipistrelle	Autumn 2023
D03	T03	Soprano pipistrelle	Summer 2023

D02	T02	Nathusius' pipistrelle	Spring 2023
D05	T05	Leisler's bat	Spring 2023

5.2 Loss or Damage to Commuting and Foraging Habitat

In the absence of appropriate design, the loss or degradation of commuting/foraging habitat has potential to reduce feeding opportunities and/or displace bat populations. The Site is predominantly located on improved agricultural grassland with hedgerows and treelines delineating the vast majority of field boundaries.

The majority of turbines will be located in agricultural grassland resulting in minimal loss of linear habitat features. Approximately 1.8km of linear vegetation removal will be required within and around the Site infrastructure footprint to allow for the construction of the turbine bases, access roads, and the other ancillary infrastructure. This also includes vegetation removal in accordance with the proposed bat buffers detailed in Section 6.1.3. Further details on vegetation removal required within and around development footprint is detailed in Chapter 4, Section 4.3.1.7 of this EIAR. To compensate for this loss, approximately 2.1km of hedgerow reinstatement and 2.4km of hedgerow enhancement will be undertaken within the Site. Hedgerow reinstatement will comprise both translocation of existing hedgerows and new hedgerow planting across the Site, contributing to long-term habitat connectivity and ecological value within the Site. While these measures will maintain and enhance ecological corridors in the long term, a short-medium term reduction in connectivity may occur until newly planted or enhanced hedgerow becomes fully established.

Further details on linear vegetation removal required within and around development footprint is detailed in Chapter 6, Appendix 6-4 of this EIAR. Existing hedgerow habitat throughout the Site will be enhanced through additional native hedgerow species. It is proposed to plant some native tree species within the hedgerow habitat to further increase the biodiversity value within the Site. The enhancement design will ensure habitat connectivity is maintained and improved around the Site. No permanent loss of, or damage to, commuting or foraging habitats is anticipated as a result of the Site or associated infrastructure. The proposed replanting area is shown and discussed in Appendix 6-4, Biodiversity Management and Enhancement Plan (BMEP). Following the implementation of the replanting plan as outlined in the BMEP, no significant effects in relation to habitat fragmentation or loss of commuting or foraging habitat for bats is anticipated.

The habitat within the location of the proposed substation consists primarily of improved agricultural grassland with an existing hedgerow bisecting the proposed location. It is proposed to remove this hedgerow to facilitate the proposed substation. This loss will be compensated for by the replanting plan proposed in the BMEP. Therefore, no permanent loss of significant commuting/foraging habitat are anticipated.

As described in Chapter 4, Section 4.5.2 of this EIAR, accommodation works along the turbine delivery route are limited to the temporary removal and reinstatement of individual trees and street furniture to facilitate the delivery of components to the Site. Therefore, no significant effects on commuting and foraging bats associated with the turbine delivery route are anticipated.

Given the extensive area of habitat that will remain undisturbed throughout the Site and the avoidance of the most significant areas of faunal habitat (i.e. mature treelines and hedgerows), no significant effects with regard to loss of commuting and foraging habitat are anticipated.

5.3 Loss of, or Damage to Roosts

The Site is predominantly located within agricultural grasslands, with hedgerows and treelines delineating field boundaries with occasional areas of scrub and several structures also present.

Three structures located within the Site boundary were identified as having roosting potential and were subsequently subject to dusk emergence surveys. Two of these structures were confirmed to support bat

roosts. A derelict farmhouse and adjoining shed located in the centre of the Site was confirmed to host a common pipistrelle roost, with two individuals recorded emerging during both dusk surveys. Additionally, a single soprano pipistrelle was observed emerging from the adjoining shed of an inhabited farmhouse in the south of the Site. Both of these structures, along with the associated linear habitat features surrounding them, will be retained and avoided by the Proposed Development. No works will be undertaken to the confirmed roost structures, and the Proposed Development will not result in the loss, damage or disturbance of either roost. Accordingly, a Regulation 54 derogation is not required in respect of the confirmed bat roosts.

Seven further structures located outside the Proposed Development boundary were assessed and, where possible dusk emergence surveys were carried out. These structures are situated outside the development footprint and will not be directly or indirectly affected by the Proposed Development.

There will be some requirement to remove trees and sections of linear vegetation to facilitate the proposed bat buffers, as detailed in Section 6.1.3 below. Following the detailed 2026 reassessment described in Section 4.3.2, 20 no. of the 23 no. trees previously identified as supporting potential roost features (PRFs) were classified as *None*, with no viable PRFs identified, while three trees proposed for removal were classified as *PRF-I*. The identified *PRF-Is* were subject to close inspection using an endoscope, and no bats or evidence indicative of current or previous use by roosting bats were recorded. Accordingly, no bat roosts were identified within the trees proposed for removal and based on the findings of the 2026 reassessment, a derogation licence is not currently required in respect of the proposed tree felling.

The removal of the three *PRF-I* trees will result in the loss of potential roosting opportunities for individual/opportunistic bats. In addition, given that the condition of trees and their potential suitability for roosting bats can change over time, there remains a potential for direct effects on bats, including disturbance, injury or mortality, should a roost become established prior to felling. A confirmatory pre-construction inspection of the three identified *PRF-I* trees will therefore be undertaken, as outlined in Section 6.1.4, prior to their removal to confirm their condition and roost status at that time. This does not represent a lacuna in the survey effort but constitutes a precautionary best practice measure that recognises that the condition of trees and their potential suitability for roosting bats can change over time. Should a bat roost be identified during the pre-felling inspection, the tree will not be felled until the appropriate mitigation, and licensing requirements have been determined and, where required, a derogation licence has been obtained from the NPWS. Additional roosting opportunities will also be provided throughout the Site in the form of bat boxes, as detailed in Section 6.1.4.

~~There will be some requirement to remove trees to facilitate the proposed bat buffers, as detailed in Section 6.1.3 below. Trees within the bat buffers varied in suitability from no potential *(None)* to *PRF-I* for roosting bats. A number of trees identified during the roost surveys as having potential to host roosting bats were located within the bat buffers detailed in Section 4.3.2 above. Although no evidence of bat use was found during daytime inspections, there is a potential for indirect effects on bats, such as the loss of potential roosting habitats, and direct effects, including temporary disturbance, harm, or death due to the proposed tree removal. On a precautionary basis, as the trees provide some potential roosting habitat, the proposed linear vegetation removal has been designed to retain as much of the suitable treelines as possible and post-construction monitoring will be carried out. A confirmatory pre-construction tree survey will be conducted on trees identified as having roosting potential prior to removal to ensure no bats are present. Additional roosting opportunities will be provided throughout the Site in the form of bat boxes, as detailed in Section 6.1.4.~~

The proposed substation is located within improved agricultural grassland (GA1). Some hedgerow removal will be necessary to accommodate these works. However, no roosting habitat was identified at these locations, and as such, no loss of bat roosts is anticipated.

The Proposed Grid Connection underground cabling route will largely follow existing roads and improved agricultural land, and no removal of treelines or other linear vegetation is required. One watercourse crossing is located along the cabling route. It comprises a crossing of the River Nore and will be achieved via Horizontal Directional Drilling. As no physical structure exists at the crossing point, and drilling will occur below the riverbed, no loss or disturbance of roosting habitat is anticipated.

Temporary removal and reinstatement of trees and minor infrastructure (e.g., signage, electrical/telecommunication poles) will be required along the turbine delivery route. These trees were

assessed as having no potential roost features. Therefore, no loss or damage to roosting habitat is anticipated in these areas.

No potential for significant effect with regard to the loss of, or damage to roosting habitat as a result of the Site, Proposed Grid Connection or the turbine delivery route is anticipated.

5.4 Displacement of Individuals or Populations

The Proposed Development is predominantly located within agricultural grassland with treelines/hedgerows delineating field boundaries. A number of treelines and hedgerows within the turbine buffers to be removed provide potential roosting and/or foraging/commuting habitat. Mitigation measures are detailed in Section 6.1 below. There will be no net loss of linear landscape features for commuting and foraging bats and there will be no loss of any roosting site of ecological significance. The habitats on the Site will remain suitable for bats and no significant displacement of individuals or populations is anticipated.

6. BEST PRACTICE AND MITIGATION MEASURES

This section describes the best practice and site-specific mitigation measures that are in place to avoid and reduce the potential for significant effects on local bat populations.

6.1 Standard Best Practice Measures

6.1.1 Noise Restrictions

During the construction phase, plant machinery will be turned off when not in use and all plant and equipment for use will comply with the Construction Plant and Equipment Permissible Noise Levels Regulations (S.I. No. 632 of 2001, as amended).

6.1.2 Lighting Restrictions

Where lighting is required, directional lighting will be used to prevent overspill on to woodland/forestry edges. Exterior lighting, during construction and post construction, shall be designed to minimize light spillage, thus reducing the effect on areas outside the Proposed Wind Farm, and consequently on bats i.e. Lighting will be directed away from mature trees/treelines around the periphery of the site boundary to minimize disturbance to bats. Directional accessories can be used to direct light away from these features, e.g. through the use of light shields (Stone, 2013). The luminaries will be of the type that prevent upward spillage of light and minimize horizontal spillage away from the intended lands.

The proposed lighting around the Proposed Wind Farm shall be designed with consideration of the Institute of Lighting Professionals Guidance Note 08/23 Bats and Artificial Lighting at Night (ILP, 2023).

In addition, the applicant commits to the use of lights during construction, operation and decommissioning (such that they are necessary) having consideration of the following guidance that is provided in the Dark Sky Ireland Lighting Recommendations:

- Every light needs to be justifiable,
- Limit the use of light to when it is needed,
- Direct the light to where it is needed,
- Reduce the light intensity to the minimum needed,
- Use light spectra adapted to the environment,
- When using white light, use sources with a “warm” colour temperature (less than 3000K).

With regard to the potential for lighting to increase collision risk, it is noted that there will be limited illumination of the turbines in the form of aviation lighting. Post construction monitoring will be carried out (as outlined below) to assess any potential changes in bat activity patterns and collision risk. Significant effects as a result of lighting are not anticipated; however, if in the course of this monitoring, any potential for significant effects on bats is identified, the site-specific mitigation measures will be reviewed and any changes necessary will be implemented to avoid any such impacts.

6.1.3 Bat Buffers

In accordance with NatureScot and NIEA Guidance, a minimum 50m buffer to all habitat features used by bats (e.g., hedgerows, tree lines etc.) should be applied to the siting of all wind turbines (See example provided in Plate 6-1 below). However, Eurobats No. 6 guidance and NIEA recommends increased buffers of 100m and 200m around woodland/forestry areas, however, there is no scientific evidence to support these increased buffer distances in Ireland or the UK.

NatureScot recommends that a distance of 50m between turbine blade tip and nearest woodland (or other key habitat features) is adequate mitigation. This 50m buffer will be implemented from the outset and monitored as per the post-construction monitoring. The success of the buffer mitigation will be assessed as part of post construction monitoring (outlined in Section 6.2 below) and updated where necessary.

The formula below is presented to provide appropriate mitigation in relation to bats, and the relevant input required from turbine parameters, is the combination of the blade length and hub height. The turbine model to be installed on the Proposed Wind Farm will have an overall ground-to-blade tip height of 175m, rotor diameter of 150m, and hub height of 100m.

There will be a requirement to remove linear vegetation i.e. treelines/hedgerows, to facilitate the required bat buffers at the Proposed Wind Farm. This is outlined in further detail in Section 6.1.4 below. These vegetation-free areas will be maintained during the operational life of the Proposed Development.

It is necessary to calculate the distance between the edge of the habitat feature and the centre of the tower (b). Using the formula:

$$b = \sqrt{(50 + bl)^2 - (hh - fh)^2}$$

Where, bl =Blade length, hh = hub height, fh = feature height all in metres. E.g. (below) b = 69.3m (Plate 6-1). Based on the turbine parameters provided, the formula calculates a bat buffer of 87m.

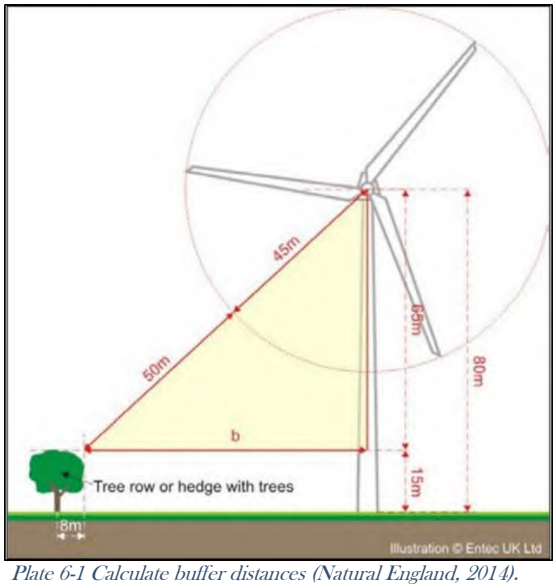


Plate 6-1 Calculate buffer distances (Natural England, 2014).

6.1.4 Confirmatory Pre-construction Tree Survey

As detailed in Section 4.3.2, a detailed reassessment of trees proposed for removal was undertaken in 2026. Of the 23 no. trees previously identified as supporting potential roost features (PRFs), 20 no. were classified as *None*, with no PRFs identified, while three trees proposed for removal were classified as *PRF-I.* The identified *PRF-Is* were subject to close inspection using an endoscope, and no bats or evidence indicative of current or previous use by roosting bats were recorded. Accordingly, no bat roosts were identified within the trees proposed for removal. Based on the findings of the 2026 reassessment and having regard to *Applications for Regulation 54 Derogations for Annex IV Species: Guidance for Applicants* (NPWS, 2026; Version 2.0), a Regulation 54 derogation is not required in respect of the proposed tree felling.

Notwithstanding the above, bats are mobile species and the condition and roosting potential of trees can change over time. Therefore, as a precautionary measure, the three identified *PRF-I* trees, the locations of which are provided in Table 4-8 and shown on Figure 4-2, will be subject to a confirmatory pre-felling inspection by a suitably qualified and appropriately licensed bat ecologist prior to removal. This measure will confirm the condition and roost status of the identified PRFs at the time of felling.

~~A number of mature trees presenting potential roosting features were identified within the bat buffers. Areas subject to removal are shown in Figure 6-1. Although no evidence of bats was found at these locations during the inspections, bats comprise mobile species that can move regularly between tree roosts. As such, the trees with potential roosting features have been considered as a "roost resource" and recommendations have been provided to account for the loss of the resource. The following procedures are proposed prior to removal of trees with PRFs:~~

The following procedures will apply prior to and during the removal of the identified *PRF-I* trees:

- A pre-commencement survey will be carried out by a suitably qualified ecologist on trees with PRFs proposed for removal.
- Should a bat or evidence of an occupied roost be identified during the confirmatory inspection or tree-removal works, all works affecting the tree will cease immediately. The findings will be reviewed by the suitably qualified bat ecologist in consultation with the NPWS, where required, and no works that could result in an offence under the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, will proceed unless all applicable legal requirements have been satisfied.
- ~~If a bat roost is identified within any of the trees to be removed/pruned, a bat derogation licence will be obtained from the NPWS, prior to removal and the removal activity will be supervised by a qualified ecologist.~~
- On a precautionary basis, works will be undertaken at an appropriate time of year, as determined by a suitably qualified ecologist, to avoid disrupting sensitive life cycle periods for bats. Tree-removal of mature deciduous trees will be carried out according to the following standard mitigating procedures:
  - Trees with suitable potential roost features proposed for removal will be checked for bats by a suitably qualified arborist/ecologist at the time of removal.
  - Trees will be nudged two or three times prior to limb removal, with a pause of 30 seconds in between, to allow bats to wake and move.
  - Rigged tree removal shall be used to lower the limbs and trunk carefully to ground level and cavities searched by a qualified ecologist.
  - Trees will be left in-situ for a minimum of 24 hours prior to sawing or mulching, to allow any bats present to escape (National Roads Authority, 2006).

To ensure continued availability of potential roost features following the removal of trees, it is proposed to erect 5no. bat boxes of varying styles/models throughout the Site. Details regarding the installation, maintenance and monitoring of bat boxes are outlined in Appendix 6-4 in Chapter 6 of this EIAR.

A replanting plan is also proposed to compensate for the loss of commuting/foraging habitat. Details of the proposed habitat replacement are outlined in Section 6.1.5 below and in Appendix 6-4 in Chapter 6 of this EIAR.

6.1.5 Biodiversity Management and Enhancement Plan

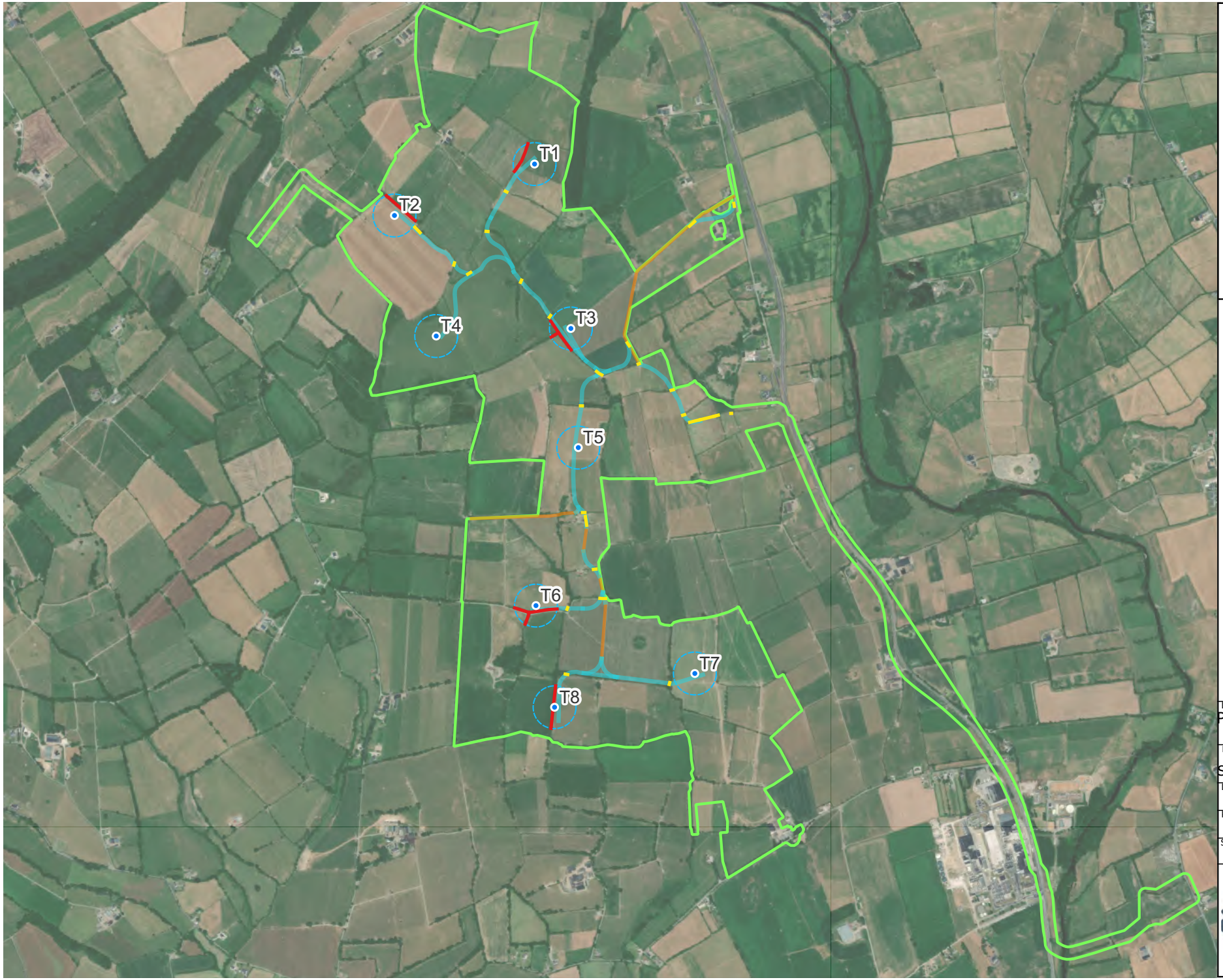
In the absence of appropriate design, the loss or degradation of commuting/foraging habitat has potential to reduce feeding opportunities and/or displace bat populations. However, the Proposed Development is predominantly located within agricultural grasslands and linear landscape features such as hedgerows, treelines and drains which will be largely retained or avoided.

Linear vegetation within the required turbine bat buffers will be removed (Figure 6-1). A replanting design has been curated to provide alternative commuting corridors within the Site. To comply with NatureScot recommendations in relation to habitat buffering to avoid bat fatalities, approx. 1,794m of linear vegetation habitat will be removed as a result of the Proposed Development, including the recommended buffers applied for bats. Further details are outlined in Chapter 6, Appendix 6-4 BMEP.

Linear landscape features in the wider area that will be retained, and the loss of gappy hedgerow/treelines is not anticipated to have a significant effect on local bat populations. However, it is proposed to plant new linear features and bolster existing habitat features to offset any potential loss in linear habitat features and to provide additional new opportunities for commuting and foraging bats. Approximately 2,375m of heavily managed hedgerow will be enhanced through additional planting with native species. It is proposed to plant some native tree species within the hedgerow habitat to further increase the biodiversity value within the Site. Additionally, approximately 2,097m of hedgerow will be translocated or planted within the Site

The locations in which the proposed linear hedgerow planting and enhancement will take place will be carried out along selected boundaries of fields within the Site. Refer to the BMEP outlined in Appendix 6-4 of the EIAR for hedgerow planting details.

Overall, the proposed planting of new native hedgerow, along with the enhancement and translocation of existing hedgerow, will result in a net gain of linear landscape features within the Site. These measures will enhance both foraging and commuting opportunities for bats that use the area. All planting will consist of species indigenous to the local area. Further details are provided in Appendix 6-4, Biodiversity Management and Enhancement Plan (BMEP).



Map Legend

- EIAR Site Boundary
- Proposed Turbine Locations
- Bat Felling Buffer
- Bat Buffer Hedgerow Loss
- Hedgerow Loss from Infrastructure
- Proposed Amendments to Existing Roads
- Proposed New Roads

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Drawing Title
Proposed Linear Vegetation Removal

Project Title
Seskin Renewables Wind Farm

Drawn By	Checked By
RC	AJ
Project No.	Drawing No.
231103	Figure 6-1
Scale	Date
1:20,000	2025-06-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie

6.1.6 Blade Feathering

NIEA Guidelines also recommend that, in addition to buffers applied to habitat features, all wind turbines are subject to 'feathering' of turbine blades when wind speeds are below the cut-in speed of the proposed turbine. This means that the turbine blades are pitched at 90 degrees or parallel to the wind to reduce their rotation speed to below two revolutions per minute while idling. This measure has been shown to significantly reduce bat fatalities (by up to 50%) in some studies (NIEA, 2021).

In accordance with NIEA Guidelines, blade feathering will be implemented as a standard across all proposed turbines when wind speeds are below the cut-in speed of the turbine.

6.2 Bat Monitoring Plan

Overall risk levels for high collision risk bat species were typically *Low* to *Medium.* This risk level is reflective of the nature of the Site, which is agricultural grassland with treelines and hedgerows delineating field boundaries with low-moderate levels of bat activity recorded during the walked transects undertaken.

However, taking a precautionary approach and given that high collision risk was recorded at median and peak activity levels, an adaptive monitoring and mitigation strategy has been devised for the Proposed Development, in line with the case study example provided in Appendix 5 of the NatureScot, (2021) and based on the site-specific data.

6.2.1 Operational Monitoring

To assess the effects of the Proposed Development on bat activity, at least 3 years of post-construction monitoring is proposed. Post-construction monitoring will include static detector surveys, walked survey transects and corpse searching to record any bat fatalities resulting from collision.

The results of post-construction monitoring shall be utilised to assess any potential changes in bat activity patterns and to monitor the implementation of the mitigation strategy as outlined in Section 6 above. If the monitoring identifies a curtailment requirement (i.e. significant bat fatalities encountered), a curtailment programme, in line with relevant guidelines, will be devised around key activity periods and weather parameters, as well as a potential increase in buffers.

At the end of each year, the efficacy of the mitigation and monitoring plan will be reviewed, and any identified efficiencies incorporated into the programme. This approach allows for an evidence-based review of the potential for bat fatalities at the Proposed Wind Farm, post construction, to ensure that the necessary measures, based on a new baseline post-construction, are implemented for the protection of bat species locally. The effectiveness of any mitigation/curtailment needs to be monitored in order to determine (a) whether it is working effectively (i.e. the level of bat mortality is incidental), and (b) whether the curtailment regime can be refined such that turbine down-time can be minimised whilst ensuring that it remains effective at preventing casualties.

The below subsections provide additional detail on the proposed survey effort, timing, and mitigation.

6.2.1.1 Monitoring Year 1

Bat activity surveys

The post-construction surveys will be carried out as per the pre-construction survey effort. Static monitoring will take place at each turbine during the bat activity season (between April and October) (NatureScot, 2021, NIEA, 2021). Full spectrum recording detectors will be utilised for the same duration as during pre-application surveys and at the same density (NatureScot, 2021). As described in Section 3.5 above, the assessment of bat activity levels will include the use of 'Ecobat' (or similar alternative), a web-based interface, allowing uploaded activity data to be contrasted with a comparable reference range, allowing objective and robust interpretation. Walked survey transects will also be conducted.

Key weather parameters and other factors that are known to influence collision risk will be monitored and shall include:

- Windspeed in m/s (measured at nacelle height)
- Temperature (°C)
- Precipitation (mm/hr)

Carcass searches

Carcass searches, to monitor and record bat fatalities, shall be conducted at each turbine in accordance with NIEA Guidance. This shall include searcher efficiency trials and an assessment of scavenger removal rates to determine the appropriate correction factor to be applied in relation to determining an accurate estimate of collision mortality. Surveys should cover all activity seasons and the use of a trained dog detection team will be carried out to ensure maximum efficiency.

6.2.1.2 Monitoring Years 2 & 3

Monitoring surveys shall continue in Year 2 and 3, and where a curtailment requirement has been identified, the success of the curtailment strategy shall be assessed in line with the baseline data collected in the preceding year(s). The performance of any curtailment programme in terms of its ability to respond to the changes in bat abundance based on temperature and wind speed shall be analysed to confirm it is neither significantly over- nor under- curtailing during different periods of bat activity.

At the end of each year, the efficacy of any mitigation/curtailment programme shall be reviewed, and any identified efficiencies incorporated into the programme. The requirement for continued post-consent monitoring will also be considered. Should no bat fatalities be recorded in Year 1, curtailment (where applicable) in Year 2 and Year 3 could be reduced/re-evaluated or removed with monitoring continuing to inform this strategy.

6.3 Residual Impacts

Taking into account the sensitive design of the project and the implementation of best practice and adaptive mitigation measures, no significant long-term residual effects on bats are anticipated with regard to:

1. Collision mortality, barotrauma and other injuries,
2. Loss or damage to roosts, and
3. Displacement of individuals or populations.

However, a temporary residual effect at the local geographic scale is anticipated in relation to the loss of commuting and foraging habitat, due to the removal of hedgerows required to facilitate construction and bat buffers. While this loss will be offset through a comprehensive hedgerow enhancement and replanting programme, it will take approximately 5–10 years for newly planted hedgerows to establish and restore full habitat functionality. As such, a minor temporary reduction in ecological connectivity may occur during this period.

6.4 Cumulative Effects

The Proposed Development was considered in combination with other projects and/or plans (existing approved and pending decision), in the surrounding area that could result in cumulative impacts on bats. This included a review of online Planning Registers and served to identify past, present and future plans and projects, their activities and their predicted environmental effects. The projects and/or plans considered are detailed in Section 2.8 in Chapter 2 of the EIAR.

Following the detailed assessment provided in the preceding sections, it is concluded that, the Proposed Development will not result in any residual adverse effects on bats, when considered on its own. There are two existing, permitted or proposed wind farms located within 5km of the Proposed Wind Farm, and three located within 10km. There are four further EIA projects including one extractive industry within 10km.

No potential for the Proposed Development to contribute to any cumulative adverse effects on any bat populations is anticipated when considered in-combination with other plans and projects.

In the review of the projects that was undertaken, no connection, that could potentially result in additional or cumulative impacts was identified. Neither was any potential for different (new) impacts resulting from the combination of the various projects and plans in association with the Proposed Development.

Taking into consideration the reported residual impacts from other plans and projects in the area and the predicted impacts with the current proposal, no residual cumulative impacts have been identified regarding bats.

7. CONCLUSION

This report provides a full and comprehensive assessment of the potential for impact on bat populations arising from the Proposed Development. The surveys provided in this report are in accordance with NatureScot guidance and assessment/mitigation are in accordance with NatureScot guidance. Following consideration of the residual effects (post mitigation) it is noted that the Proposed Development will not result in any significant effects on bats.

Provided that the Proposed Development is constructed and operated in accordance with the design, best practice and mitigation that is described within this report, significant effects on bats are not anticipated at any geographic scale.

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APPENDIX 1

BAT HABITAT SUITABILITY APPRAISAL

Updated guidelines for assessing the potential suitability of a site for bats, based on the presence of habitat features (taken from Collins, 2023)

Potential Suitability	Description	
	Roosting Habitats in Structures	**Potential Flight- Paths and Foraging Habitats**
None	No habitat features on site likely to be used by any roosting bats at any time of the year. (i.e. a complete absence of crevices/ suitable shelter at all ground/ underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines or generate/shelter insect populations available to foraging bats).
Negligible[a]	Negligible habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[b] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats, i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats[c].	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[b] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation - the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[b], and surrounding habitat. These structures have the potential to support high conservation status which is established after presence is confirmed.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

a) Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

b) For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

c) Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2016 and Jansen et al., 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

BCT Protocol for categorising the suitability of trees for bats (Collins, 2023).

Assessment	Description
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

BCT Guidance for categorising suitability of PRFs for bats (Collins, 2023).

Assessment	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony

APPENDIX 2

SITE RISK ASSESSMENT

Table 3a: *Stage 1 - Initial site risk assessment*

Site Risk Level (1-5)*	**Project Size**			
		Small	**Medium**	**Large**
Habitat Risk	**Low**	1	2	3
	Moderate	2	3	4
	High	3	4	5

Key: Green (1-2) - low/lowest site risk; Amber (3) - medium site risk; Red (4-5) - high/highest site risk.

* Some sites could conceivably be assessed as being of no (0) risk to bats. This assessment is only likely to be valid in more extreme environments, such as above the known altitudinal range of bats, or outside the known geographical distribution of any resident British species.

Habitat Risk	**Description**
Low	Small number of potential roost features, of low quality. Low quality foraging habitat that could be used by small numbers of foraging bats. Isolated site not connected to the wider landscape by prominent linear features.
Moderate	Buildings, trees or other structures with moderate-high potential as roost sites on or near the site. Habitat could be used extensively by foraging bats. Site is connected to the wider landscape by linear features such as scrub, tree lines and streams.
High	Numerous suitable buildings, trees (particularly mature ancient woodland) or other structures with moderate-high potential as roost sites on or near the site, and/or confirmed roosts present close to or on the site. Extensive and diverse habitat mosaic of high quality for foraging bats. Site is connected to the wider landscape by a network of strong linear features such as rivers, blocks of woodland and mature hedgerows. At/near edge of range and/or on an important flyway. Close to key roost and/or swarming site.

Project Size	**Description**
Small	Small scale development (≤10 turbines). No other wind energy developments within 10km. Comprising turbines <50m in height.
Medium	Larger developments (between 10 and 40 turbines). May have some other wind developments within 5km. Comprising turbines 50-100m in height.
Large	Largest developments (>40 turbines) with other wind energy developments within 5km. Comprising turbines >100m in height.

APPENDIX 3

OVERALL SITE RISK

Table 3b: *Stage 2 - Overall risk assessment*

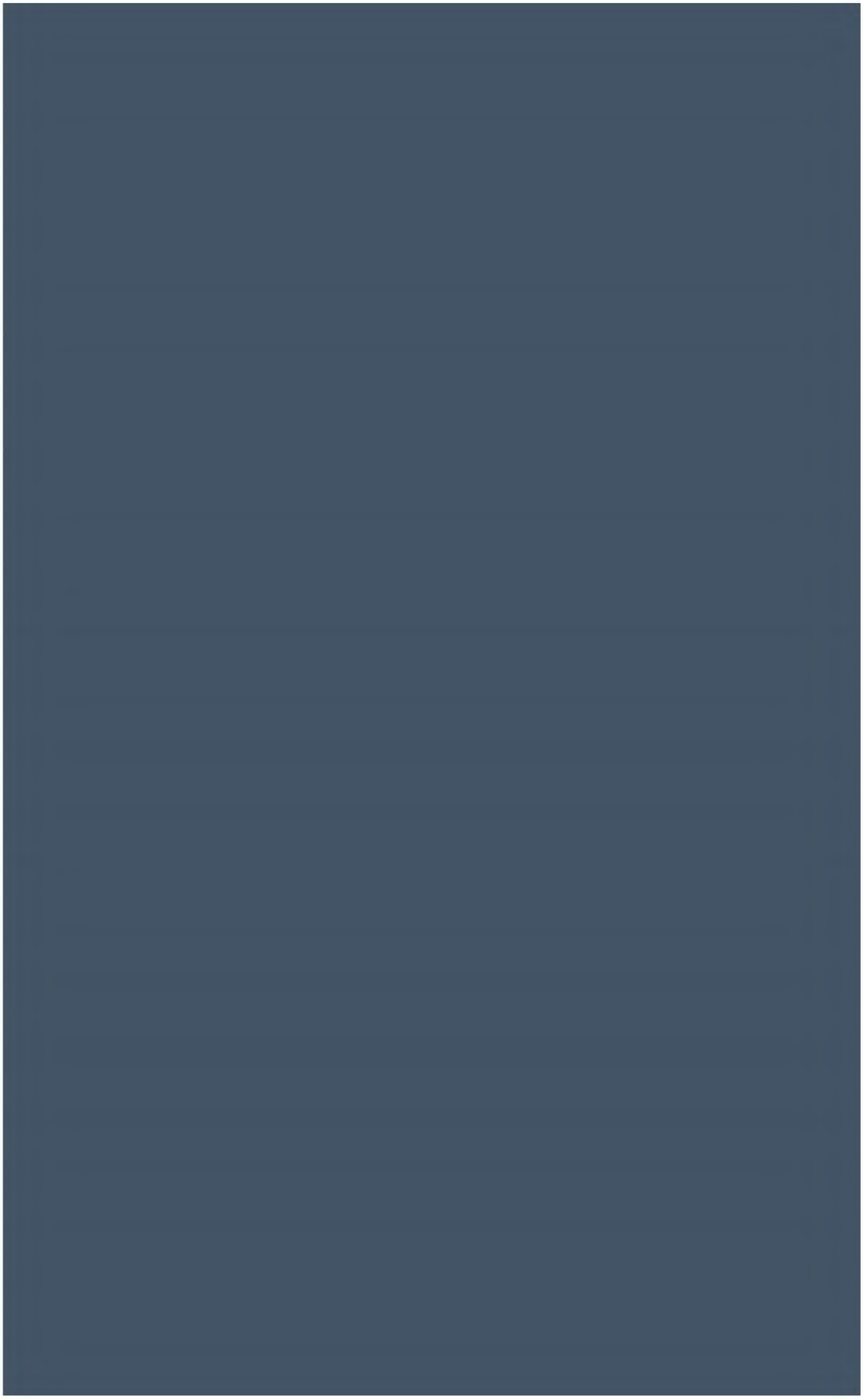
Site risk level (from Table 3a)	Ecobat activity category (or equivalent justified categorisation)					
	Nil (0)	Low (1)	Low-moderate (2)	Moderate (3)	Moderate-high (4)	High (5)
Lowest (1)	0	1	2	3	4	5
Low (2)	0	2	4	6	8	10
Med (3)	0	3	6	9	12	15
High (4)	0	4	8	12	15	18
Highest (5)	0	5	10	15	20	25

The scores in the table are a product of multiplying site risk level and the Ecobat activity category (or equivalent). The activity categories equate to those given in Table 1 for high collision risk species. Nil (0) means no bat activity was recorded across the whole site, but caution is needed here, because although the values given in this column are "0", at sites where pre-construction surveys found no bat activity, there remains the possibility that new turbines could attract some bat species, thereby altering the level of risk that applies in reality.

Overall assessment:

Low (green)	0-4
Medium (amber)	5-12
High (red)	15-25

It is important to have an understanding of both "typical" and unusually high levels of bat activity at a site so that potentially important peaks in activity are not overlooked. It is therefore recommended that both the highest Ecobat activity category and the most frequent activity category (i.e. the median) are assessed separately in Table 3b and presented in the overall risk assessment. A judgement can then be made on which is the most relevant. It should be noted that presenting mean activity levels can be highly misleading where the data are highly skewed, as is frequently the case with bat activity at wind turbines (Lintott & Mathews, 2018).



APPENDIX 6

DETAILED GRID CONNECTION CABLING ROUTE LAYOUT PLANS

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary Kilkenny
- Existing Road to be Upgraded
- Proposed New Road
- Temporary Hardcore Surface
- Temporary Hardcore Surface & Ground Protection Mats
- Internal Underground Electrical Cabling Trench
- Soft Levelled Area
- Hardstand
- Turbine Foundation
- Turbine Sweep Area
- Borrow Pit
- Cut
- Fill
- Proposed Underground Grid Connection Cabling Route
- County Boundary
- Proposed Hedgerow Enhancement
- Proposed New Hedgerow/Hedgerow Translocation
- Road Surface
- Verge
- Boundary Wall/Fenceline

N

PROJECT TITLE: **Seskin Renewables Wind Farm, Co. Kilkenny/Laois**

DRAWING TITLE: **Grid Connection Key Plan**

PROJECT No.:	DRAWING No.:	SCALE:
231103	231103 - 40	1:10,000 @ A3

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary Kilkenny
- Proposed New Road
- Internal Underground Electrical Cabling Trench
- Cut
- Fill
- Proposed Underground Grid Connection Cabling Route
- County Boundary
- Joint Bay & Comms Chamber
- Road Surface
- Verge
- Boundary Wall/Fenceline

Co. Kilkenny

Co. Laois

Joint Bay & Comms Chamber
Refer to DWG 231103 - 30 & 31
For Details

N

PROJECT TITLE: **Seskin Renewables Wind Farm, Co. Kilkenny/Laois**

DRAWING TITLE: **Grid Connection Plan Sheet 1 of 4**

PROJECT No.:	DRAWING No.:	SCALE:
231103	231103 - 40.1	1:1,000 @ A1

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary Kilkenny
- Proposed Underground Grid Connection Cabling Route
- Joint Bay & Comms Chamber
- Road Surface
- Verge
- Boundary Wall/Fenceline

N

PROJECT TITLE:
Seskin Renewables Wind Farm, Co. Kilkenny/Laois

DRAWING TITLE:
Grid Connection Plan Sheet 2 of 4

PROJECT No.:	DRAWING No.:	SCALE:
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Joint Bay & Comms Chamber
Refer to DWG 231103 - 30 & 31
For Details

13050

8620

15860

15120

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8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary Kilkenny
- Proposed Underground Grid Connection Cabling Route
- Joint Bay & Comms Chamber
- Road Surface
- Verge
- Boundary Wall/Fenceline

N

PROJECT TITLE:
Seskin Renewables Wind Farm, Co. Kilkenny/Laois

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Grid Connection Plan Sheet 3 of 4

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8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary Kilkenny
- Proposed Underground Grid Connection Cabling Route
- Joint Bay & Comms Chamber
- Road Surface
- Verge
- Boundary Wall/Fenceline

N

PROJECT TITLE: **Seskin Renewables Wind Farm, Co. Kilkenny/Laois**

DRAWING TITLE: **Grid Connection Plan Sheet 4 of 4**

PROJECT No.:	DRAWING No.:	SCALE:
231103	231103 - 40.4	1:1,000 @ A1

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APPENDIX 7

UPDATED CHAPTER 13 - ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

Planning and Environmental Consultants

Environmental Impact Assessment Report

Seskin Renewables Wind Farm

Chapter 13 Archaeological, Architectural and Cultural Heritage (Updated)



DOCUMENT DETAILS

Client:	**Seskin Renewable Energy Ltd.**
Project Title:	**Seskin Renewables Wind Farm**
Project Number:	**231103**
Document Title:	**Environmental Impact Assessment Report**
Document File Name:	**RFI Appendix 7 – Amended Chapter 13 - Archaeological, Architectural And Cultural Heritage**
Prepared By:	**MKO** **Tuam Road** **Galway** **Ireland** **H91 VW84**

Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
01	Final	21/08/2026	FB	FB

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13. ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

13.1 Introduction

IAC Archaeology has prepared this chapter to assess the impact, if any, on the archaeological, architectural and cultural heritage resource of the Proposed Development (Seskin Renewables Wind Farm), on the border of Counties Laois and Kilkenny. The chapter has been updated in response to a Request for Further Information issued by An Coimisiún Pleanála (item 13) included as follows:

> *13. It is noted that the proposed Turbine Delivery Route (TDR) traverses the Durrow Architectural Conservation Area (ACA), including The Square, Mary Street and Carrigan Street within the town centre. It is further noted that Chapter 13 of the EIAR does not assess the potential impact of the TDR on the ACA, notwithstanding that accommodation works are proposed to facilitate turbine delivery.*
>
> *Having regard to the above, you are required to submit the following further information:*
>
> - *Update the EIAR to include a detailed assessment of the potential effects of the Turbine Delivery Route on Durrow ACA.*
> - *The assessment should specifically consider the impact of any accommodation works, including potential effects on the character, setting and architectural significance of the ACA.*
> - *Where impacts are identified, the applicant shall propose appropriate measures to avoid, reduce or remedy adverse effects.*

The results of the assessment requested in the RFI are included throughout the chapter, including analysis of the baseline, field inspection, impact assessment and mitigation measures.

This study determines, from existing records and field inspections, the nature of the archaeological, architectural and cultural heritage resource within the Proposed Development and its environs using appropriate methods of study. The study areas for the assessment are described in Section 13.2.

Desk-based assessment is defined as a programme of study of the historic environment within a specified area or site that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic, and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets (CIfA 2014).

This leads to the following:

- Determining the presence of known cultural heritage assets that may be affected by the proposed project;
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the construction programme;
- Determining the potential impact upon the setting of known cultural heritage sites in the study area; and
- Suggested mitigation measures based upon the results of the above research.

The study involved detailed interrogation of the archaeological and historical background of the proposed project and study area. This included information from the Record of Monuments and Places of Counties Kilkenny and Laois, the topographical files of the National Museum of Ireland, and cartographic and documentary records. Inspection of the aerial photographic and satellite imagery

coverage of the proposed project held by Tailte Éireann, Bing Maps, and Google Earth has also been carried out.

A field inspection was carried out during May and November 2024 and September 2025 in order to identify any known archaeological, architectural and cultural heritage sites and previously unrecorded features, structures, and portable finds within the proposed project.

13.1.1 Statement of Authority

This chapter was prepared by Faith Bailey (MA Cultural Landscape Management, BA (Hons) Archaeology, MIAI, MCIfA) Faith is a licence eligible archaeologist, a member of the Chartered Institute of Field Archaeologists, a member of the Institute of Archaeologists of Ireland and has over 20 years' experience working in the commercial cultural heritage sector. She has been responsible for the production and delivery of multiple archaeological, architectural and cultural heritage assessments and EIAR for renewable energy projects, including The Yellow River Wind Farm (Co. Offaly), Derrysallagh Wind Farm (Co. Sligo), Derreenacrinnig Wind Farm (Co. Cork) and the Robertstown Wind Farm (Co. Waterford).

13.1.2 Definitions

In order to assess, distil and present the findings of this study, the following definitions, specific to this chapter, apply:

'Cultural Heritage' where used generically, is an over-arching term applied to describe any combination of archaeological, architectural, and cultural heritage features, where the term:

- 'Archaeological heritage' is applied to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD 1700 (and recorded as archaeological sites within the Record of Monuments and Places).
- 'Architectural heritage' is applied to structures, buildings, their contents and settings of an (assumed) age typically younger than AD 1700.
- 'Cultural heritage', where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events, folklore memories and cultural associations.

13.1.3 Consultation

Following the initial research, a number of statutory and voluntary bodies were consulted to gain further insight into the cultural background of the proposed project and study area, as follows:

- Department of Housing, Local Government and Heritage – the Heritage Service, National Monuments and Historic Properties Section: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care Database; Preservation Orders and Register of Historic Monuments;
- National Museum of Ireland, Irish Antiquities Division: topographical files of Ireland;
- Kilkenny County Council: Planning Section;
- Laois County Council: Planning Section; and
- Historical and Ordnance Survey Maps.

13.1.4 Guidance and Legislation

The following legislation, standards and guidelines were consulted as part of the assessment.

- National Monuments Act, 1930 to 2014;

- The Planning and Development Act, 2000 (as amended);
- Heritage Act, 1995 (as amended);
- Draft Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), 2015, EPA;
- Guidelines on the Information to be Contained in Environmental Impact Assessment Report 2022, EPA;
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht, and Islands; and
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 2000 and the Local Government (Planning and Development) Act 2000.

The National Monuments Act 1930, as amended by various acts including but not limited to, the National Monuments (Amendment) Act 1954, the National Monuments (Amendment) Act 1987, the National Monuments (Amendment) Act 1994 and the National Monuments (Amendment) Act 2004 (together the National Monuments Acts) make provision for the protection and preservation of national monuments, archaeological monuments and archaeological objects in Ireland. The description of the existing environment in this chapter takes account of those statutory designations and the chapter takes account of the legislative monitoring and licencing requirements as mitigation.

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 (the 2023 Act) was enacted by the Oireachtas in late 2023 and aims to address a range of structural issues, simplify terminology, as well as provide a single accessible piece of legislation. At the date of writing many sections of the 2023 Act have yet to commence. It is not anticipated that this will result in statutory protection being extended to any potential receptors apart from those already considered in this chapter and the chapter already identifies as mitigation the various archaeological investigations and licencing requirements that will come into force when the 2023 Act is commenced. Accordingly, the EIAR conclusions are likely to be unchanged should the 2023 Act commence fully while the application is moving through the planning process.

13.2 Assessment Methodology

13.2.1 Study Area Definitions

The definition of the study areas utilised for the assessment of the proposed project are detailed in Table 13.1. The determination of study areas is based on professional judgement, given there are no national guidelines available with regards to how the development of wind farms may impact on the archaeological, architectural and cultural heritage resource. The study area for the proposed wind farm site is large, due to the potential indirect effects that may occur in the relation to the setting of archaeological, architectural and cultural heritage sites. The study area for the Proposed Grid Connection and the Turbine Delivery Route is 50m as the footprint of these works are small-scale and confined primarily to the existing road network.

Table 133-1 Study Area Definitions

Proposed Development Element	Study area	Site Types
Proposed Wind Farm	10km	All sites of national significance, including National Monuments under state care or guardianship and any sites subject to a Preservation Order (PO).
Proposed Wind Farm	5 km	All archaeological, architectural and cultural heritage assets subject to statutory protection, including sites listed in the Record of Monuments

		and Places (RMP) and Record of Protected Structures (NIAH), National Inventory of Architectural Heritage (NIAH) structures and Designed Landscapes (DL).
Proposed Wind Farm	2 km	All previously unrecorded sites or structures of cultural heritage merit, such as buildings of architectural heritage merit (not included in the RPS/NIAH and archaeological sites not included in the RMP.
Proposed Grid Connection	50m	All recorded and previously unrecorded cultural heritage sites.
Any interventions along the Turbine Delivery Route (TDR)	50m	All recorded and previously unrecorded cultural heritage sites.

13.2.2 Desktop Assessment

The following sources were examined, and a list of heritage assets and areas of archaeological, architectural and cultural heritage potential was compiled:

- United Nations Educational, Scientific and Cultural Organization (UNESCO): properties inscribed on the World Heritage List and those nominated for inclusion on the tentative list;
- RMP for Counties Kilkenny and Laois;
- Sites and Monuments Record (SMR) for Counties Kilkenny and Laois;
- National Monuments in State Care Database;
- List of Preservation Orders;
- Register of Historic Monuments;
- Topographical files of the National Museum of Ireland;
- Cartographic and documentary sources relating to the receiving environment;
- The development plans for Counties Kilkenny and Laois;
- National Inventory of Architectural Heritage Counties Kilkenny and Laois (Architectural & Garden Survey);
- Aerial photographs;
- Excavations Bulletin (1970–2025); and
- Place name analysis

The function of a UNESCO World Heritage list is to encourage member states to protect and manage their natural and cultural heritage. Properties considered for inclusion have cultural, historical, scientific or other significance, considered to be of outstanding value to humanity. There are three sites inscribed onto the UNESCO World Heritage List on the island of Ireland. These comprise the Giant's Causeway and Causeway Coast, Brú na Bóine and Skellig Michael, none of which lie within 10km of the proposed project. In addition, there are no sites included on the tentative list located within 10km.

Record of Monuments and Places (RMP) was established under Section 12 (1) of the National Monuments Act 1994 (as amended) which provides that the Minister for Housing, Local Government and Heritage (DHLGH) shall establish and maintain a RMP where it is known that such monuments exist. The record comprises of a list of monuments and relevant places and mapping showing each monument and relevant place in respect of each county in the State. Sites recorded on the RMP all receive statutory protection under the National Monuments Act. All sites listed on the RMP are referred to as Archaeological Heritage (AH sites) within this assessment.

Sites and Monuments Record (SMR) holds documentary evidence and records of field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Service as termed 'un-located sites' and cannot be afforded legal protection. As a result, these are omitted from the RMP. SMR sites are also listed on a website maintained by the DHLGH – www.archaeology.ie. All sites listed on the SMR are referred to as Archaeological Heritage (AH sites) within this assessment. It should be noted that revisions are proposed to the RMP and SMR, with some sites listed as redundant records and proposed for removal and other, newly discovered sites, proposed for inclusion. As the revisions have yet to take place, all current RMP/SMR sites are listed as AH sites within this assessment, with the relevant detail provided as to the nature and extent of each site included.

National Monuments in the State Care Database is a list of all the National Monuments in the State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of each monument. A National Monument receives statutory protection and is described as 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' (National Monuments Act, 1930, Section 2). The Minister for the DHLGH may acquire National Monuments by agreement or by compulsory order. The State or Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments (other than dwellings) may also appoint the Minister or the Local Authority as guardian of that monument if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State, it may not be interfered with without the written consent of the Minister.

Preservation Orders List and/or Temporary Preservation Orders, can be assigned to a site or sites that are deemed to be in danger of injury or destruction. Orders are allocated under the National Monuments Act, 1930. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the National Monuments Act, 1954. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister (DHLGH). A tower house, bawn, church and deserted settlement (KK009-037001; KK009-037003; KK009-037004; KK009-038001; KK009-038002) are recorded in the townland of Balleen Little and are subject to a Preservation Order (03/1992), c. 7.28km southwest of Turbine 8. A church (KK013-018001) in Ballylarkin Upper, c. 9.76km southwest of Turbine 8, is a National Monument in State Ownership (Nat. Mon. No. 282).

Register of Historic Monuments was established under Section 5 of the National Monuments (Amendment) Act, 1987 and requires the Minister to establish and maintain such a record. Historic monuments and archaeological areas included in the register are afforded statutory protection under the National Monuments (Amendment) Act, 1987. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the RMP.

The topographical files of the National Museum of Ireland are the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the Site and its receiving environment as well as providing important topographical information on areas of archaeological potential and the construction of buildings in the past. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape. These include current and former townland and parish boundaries.

All sites of potential archaeological, architectural or cultural heritage merit identified during the map analysis and aerial photographic analysis are listed as Cultural Heritage (CH) sites within this assessment.

Documentary sources were consulted to compile background information on the archaeological, architectural and cultural heritage receiving environment of the proposed project. A full list of references is given in Section 13.9

Development Plans contain a catalogue of all the Protected Structures, archaeological sites and Architectural Conservation Areas within every county. The Kilkenny City and County Development Plan (2021 – 2027) and the Laois County Development Plan (2021 – 2027) were examined as part of this assessment. All protected structures are referred to as Built Heritage sites (BH) as part of this assessment.

The National Inventory of Architectural Heritage (NIAH) was established under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. It is a government-based organisation tasked with making a nationwide record of locally, regionally, nationally and internationally significant structures dating to post-1700 AD, which in turn provides local authorities with a guide as to what structures to list within the Record of Protected Structures. Only those structures of regional importance or above are included in the Minister's recommendations for inclusion in the RPS. The NIAH have also carried out a nationwide desk-based survey of historic gardens, including demesnes that surround large houses. All NIAH structures are referred to as Built Heritage sites (BH) as part of this assessment.

Whilst the NIAH Garden Survey was utilised as part of this assessment, this was carried out in conjunction with detailed analysis of the first edition Ordnance Survey maps and field inspection, in order to identify any designed landscapes (DL) within the receiving environment of the Proposed Development.

Aerial photographic coverage is an important source of information regarding the precise location of sites and their extent. It also provides information on the terrain and its likely potential for archaeology. Aerial photographs held by Tailte Éireann (1995–2013), Google Earth (2005–2024) and Bing Maps (2023) were examined for this assessment.

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is also available online (www.excavations.ie) from 1970-2025. Information from this resource is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files.

Place Names are an important part in understanding both the archaeology, history and cultural heritage of an area. Place names can be used for generations and in some cases have been found to have their roots deep in the historical past. The main references used for the place name analysis is Irish Local Names Explained by P.W Joyce (1870), and the Place Names Database of Ireland (www.loganim.ie).

13.2.3 Field Inspection

Field inspection is necessary to determine the extent and nature of archaeological, architectural, and cultural heritage remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The field inspection for the Proposed Development was carried out during May, November 2024 and September 2025. The most recent inspection related specifically to the proposed TDR accommodation works in Durrow. The field inspection entailed:

- Noting and recording the terrain type and land usage;

- Noting and recording the presence of known and previously unknown features of archaeological, architectural or cultural heritage significance;
- Verifying the extent and condition of recorded sites and structures (RMPs/ RPS/ NIAH); and
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin and of archaeological, architectural or cultural heritage significance.

13.3 Impact Assessment Methodology

The significance of potential effects has been evaluated using a systematic approach, based upon identification of the importance/value of receptors and their sensitivity to the proposed development activity, together with the predicted magnitude of the impact. This is in accordance with the approach laid out in the "Guidelines on Information to be Contained in Environmental Impact Statements" (EPA 2022).

13.3.1 Sensitivity of receptor

For each impact, the assessment identifies receptors sensitive to that impact and implements a systematic approach to understanding the impact pathways, magnitude and the level of effects on given receptors.

The definitions of receptor sensitivity for the purpose of the archaeology, architectural and cultural heritage assessment are provided in Table 13-2. This is based on the presence (or not) of statutory protection and the determination by the author.

Table 133-2 Criteria for determination of receptor sensitivity

Sensitivity	Criteria
Very High	Sites of International Importance: UNESCO World Heritage Properties (including tentative list) National Monuments Monuments subject to Preservation Orders
High	RMP Proposed RMP Record of Protected Structures (RPS) Architectural Conservation Area (ACA) Well-preserved demesne landscapes Previously unrecorded archaeological sites
Medium	SMR Sites listed on the NIAH (upstanding) Buildings not on NIAH/RPS (based on professional judgement) Moderately well-preserved demesne landscapes Townland boundaries
Low	Buildings not on NIAH/RPS (based on professional judgement) Poorly preserved demesne landscapes
Very Low	SMR – Record only or redundant record Proposed RMP – excavated Fully developed demesne landscapes

13.3.2 Magnitude of Impact

The scale or magnitude of potential impacts (both beneficial and adverse) depends on the degree and extent to which the proposed development activities may change the environment, which usually varies according to project phase (i.e. construction, operation and maintenance and decommissioning).

As per the Environmental Protection Agency (EPA) Guidelines, the nature of impacts can be categorised as follows:

- Quality: Positive, neutral or negative
- Nature: Direct, indirect
- Probability: Likely or unlikely
- Duration: Momentary, brief, temporary, short-term, medium-term, long-term, permanent, reversible
- Frequency: Once, rarely, occasionally, frequently, constantly

The criteria used to assess the different impacts associated with the proposed development are shown in Table 13-3. The criteria has been defined by the author in consideration of the "Guidelines on Information to be Contained in Environmental Impact Statements" (EPA 2022).

Table 133-3 Criteria for determination of Magnitude of Impact

Magnitude	Criteria
Very High	These impacts arise where an archaeology or cultural heritage site, either below ground or upstanding, is completely and irreversibly destroyed.
High	An impact which, by its magnitude, duration or intensity, alters an important aspect of the archaeological and cultural heritage environment, including the setting of upstanding monuments. 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 an archaeological or cultural heritage feature/site.
Medium	A medium impact arises where a change to a site/monument is proposed which though noticeable, is not such that the archaeological or cultural heritage integrity of the site is compromised. The change is likely to be consistent with existing and emerging trends. Impacts are probably reversible and may be of relatively short duration.
Low	An impact which causes changes in the character of the environment, such as a visual impact, which are not high or very high and do not directly impact or affect an archaeological or cultural heritage feature or monument.
Very Low	An impact on an archaeological or cultural heritage feature or monument capable of measurement but without noticeable consequences.

13.3.3 Significance of Effects

An Impact Assessment Matrix (IAM) is used to determine the significance of an effect. In basic terms, the potential significance of an effect is a function of the sensitivity of the receptor and the magnitude of the impact, as shown in Table 13-4.

The matrix provides a framework for the consistent and transparent assessment of predicted effects although it is important to note that the assessments are based on the application of expert judgement.

The matrix provides levels of effect significance ranging from imperceptible to profound. For the purposes of this assessment, potential effects identified to be of significant significance or above (i.e., significant, very significant or profound) are considered to be "significant in EIA terms" and additional mitigation will be required. Potential effects identified as less than significant (i.e. moderate, slight, imperceptible or not significant) significance are generally considered to be not significant in EIA terms.

Table 133-4 Impact Assessment matrix for determination of significant of effect

Sensitivity of Receptor	Magnitude of Impact				
	Very High	**High**	**Medium**	**Low**	**Very Low**
Very High	Profound	Very Significant	Significant	Moderate	Slight
High	Very Significant	Significant	Significant - Moderate	Moderate - Slight	Not Significant
Medium	Significant	Significant - Moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate - Slight	Slight	Not Significant	Imperceptible
Very Low	Slight	Not Significant	Imperceptible	Imperceptible	Imperceptible

13.4 The Receiving Environment

The Proposed Wind Farm is located within the townlands of Ballyconra, Seskin, Seskin North and Ballynaslee, County Kilkenny, and Archerstown and Tinwear, County Laois. The Proposed Grid Connection passes through Ballyconra and Moatpark in County Kilkenny. The TDR comprises existing roadways from the M7, through the towns of Abbeyleix and Durrow and reaching the wind farm site via the N77. The TDR will require minimal accommodation works to the existing road network, with the exception of one location in Durrow town, where temporary enabling works are required in a green space bounded by Mary Street and Old Chapel Street (Plate 13.1). All elements of the TDR interventions have been subject to assessment. The Proposed Wind Farm site is primarily comprised of agricultural land set in a rural landscape (Appendix 13-4, Figure 13-1).



Plate 13-1a Proposed accommodation works (orange) within the Durrow ACA (blue) and the TDR route (red)

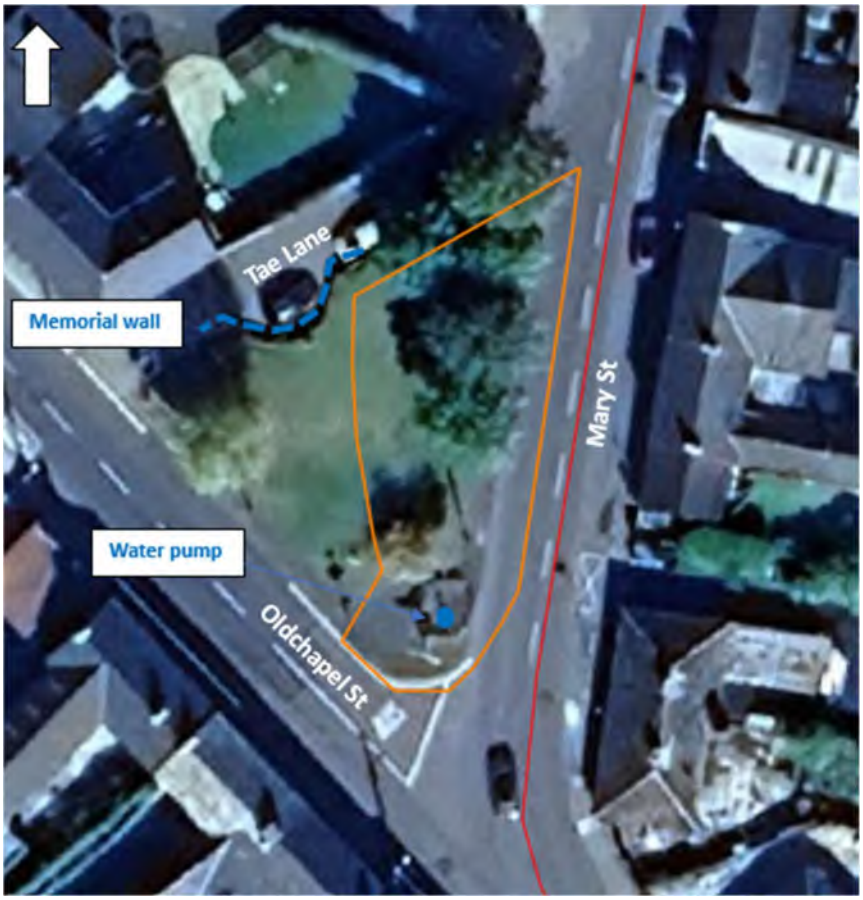

Plate 13-1b Location of proposed TDR enabling works in Durrow

There are two recorded monuments within the Proposed Wind Farm (AH13 and AH43). A further 282 monuments are recorded within the 5km study area, including two which are additionally protected by a Preservation Order (AH52). There are no National Monuments within 5km of the Proposed Wind farm. The closest is a church (KK013-018001) in Ballylarkin Upper, c. 9.76km southwest of Turbine 8 (Nat. Mon. No. 282).

There are no protected structures located within the Proposed Wind Farm. Similarly, no structures listed in the NIAH are located within the development area. A large number of structures within the environs are listed in both the RPS and NIAH, with built heritage concentrated within the settlements of Durrow to the north and Ballyragget to the south, both of which are also contain Architectural Conservation Areas. The proposed TDR enabling works in Durrow as located within the ACA for the town.

There are 14 Designed Landscapes (DL) within 5km of the Proposed Wind Farm. None of these are located within the Proposed Wind Farm site, although DL1 and DL2 are located immediately adjacent.

Sites and structures described in this assessment are shown in Appendix 13-4, Figures 13-2-7. National Monuments within 10km of the Site are shown in Appendix 13-4 Figure 13-8.

13.4.1 Summary of Archaeological Fieldwork

A review of the Excavations Bulletin (1970-2025) and the available excavation reports revealed no previous archaeological investigations have taken place within the Proposed Development area boundary. There are a number of geophysical surveys and archaeological investigations which have been carried out within 2km of the overall proposed development area. These are summarised below and shown on the relevant Figure 13-2-7 as included in Appendix 13.4.

A geophysical survey was carried out prior to a road improvement scheme in the townland of Ballyconra, County Kilkenny, c. 882m east of T7 (Licence No. 18R0092. A number of anomalies of possible archaeological potential were identified, including five clearly defined archaeological sites (Gimson and Hogan 2018). An enclosure c. 28m diameter and containing a number of internal features, likely pits and ditches, was identified in the north of the survey area. A second enclosure was identified to the south, which appeared to incorporate entrances to the east and west. In addition, the extent of a recorded ring-ditch (AH32) was confirmed by the geophysical survey. An outer ditch measuring 16m in diameter and with a possible east entrance, surrounds a circular arrangement of pits. Further pit like features were noted surrounding the monument. In the southwestern extent of the survey area, two small ring-ditches were identified and were disturbed by a series of pits.

Following geophysical survey, archaeological testing was carried out under licences 22E0847 and 22R0360, as part of the N77 Road Improvement Scheme, within the footprint of the existing N77 (which is the route of the Proposed Grid Connection (Bennett 2022:399). This identified a number of archaeological sites which were alter fully excavated– Ballyconra 1 (Licence No. 23E0095), Post-medieval vernacular structures, Ballyconra 2 (Licence No. 23E0096, 23R0052), Possible ring-ditch, Ballyconra 3 (Licence No. 23E0096, 23R0052), Possible relict field system,, Ballyconra 4 (Licence No. 23E0096, 23R0052), Curvilinear feature, Ballyconra 5 (Licence No. 23E0097), Post-medieval vernacular structure, Ballyconra 6 (Licence No. 23E0094), Post-medieval vernacular structure.

Archaeological monitoring was carried out at Glanbia Milk Processing Facility in the townland of Ballyconra, immediately adjacent to the Proposed Grid Connection and 1.5km to the southeast of T7. (Licence No. 22E0334). The works entailed monitoring of the excavation of four pits for foundations of cooling towers. The area was heavily disturbed by modern activities and no features of archaeological potential were identified (Hurley 2022).

A geophysical survey was carried out for realignment of the N77 under licence 08R0269 in the townland of Ballynaslee, within the existing N77, which is part of the Turbine Delivery Route and 815m east of T3. The small area available for survey limited the interpretation of the results, however, a

number of curved anomalies of possible archaeological significance were identified. In addition, five possible pits were noted (Gimson and Bonsell 2008).

Following geophysical survey archaeological testing was conducted which identified four sites, named Ballynaslee 1-4 (Licence No. 12E0342, Bennett 2012:335). These sites were located within the existing N77 roadway which is the Turbine Delivery Route. These sites were later subject to full excavation. Ballynaslee 1 comprised a single pit which returned a Bronze Age date (Licence No. 13E0116). Ballynaslee 2 was also a Bronze age pit (Licence No. 13E0117). Ballynaslee 3 comprises an area of burning and carbonised silt which was of unclear date (Licence No. 13E0118). Ballynaslee 4 comprises two pits, no dating evidence was retrieved (Licence No. 13E0118).

A programme of archaeological testing was carried out for a proposed single residential house, c. 662m east of the Proposed Grid Connection and 1.96km east -southeast of T7 (Licence No. 08E0368). Four trenches were excavated but no features of archaeological significance were identified (Lennon 2008).

Archaeological excavation was carried out c. 2.69km south-southeast of T7 under licence 99E0597 in the townland of Parksgrove, Co. Kilkenny. An iron-working pit and a burnt mound were discovered during monitoring for a gas pipeline. The pit was identified as a furnace bowl, and was associated with a number of iron objects, metallurgical waste and charcoal fragments. A burnt mound was discovered c. 8m north of the iron-working pit, and it was unclear if this was associated or not (Stevens 2000). This site was later added to the SMR as KK009-095-6 (AH86). As part of the same project two *fulachtai fia* were uncovered further south, AH87 and AH88, excavated under licences 99E0598 and 99E0599 respectively.

13.4.2 Cartographic Analysis

13.4.2.1 George Taylor and Andrew Skinner, Maps of the Roads of Ireland, 1777

This series includes a map of the section of roadway from Ballyragget to Durrow adjacent to the overall proposed development area, a road that later became the N77. At the north end of the stretch of road, the village of Durrow is shown. Castledurrow Demesne (DL6) is shown under the ownership of Viscount Ashbrook. Ballyconra House (DL1) is shown owned by Viscount Mountgarret at this time. The ruins of a castle are marked north of Ballyconra, which may represent the ruins of Mountgarret Castle (AH22) which is no longer visible above ground. In close proximity to the Ballyconra House demesne, a 'flowermill' is shown along the River Nore.

13.4.2.2 First Edition Ordnance Survey Map, 1842, scale 1:10,560

The first edition OS map of 1842 shows the overall proposed development area within a rural and agricultural landscape, to the south of Durrow and to the northwest of Ballyragget. AH29 is shown as a circular enclosure which traverses a field boundary. AH13 is also shown as a sub-circular enclosure within the overall proposed development area. There are a number of vernacular farmsteads shown within the mapping, including CH2 and CH3, which r remain extant today. There are also a number of small quarries and lime kilns shown within the Site. There are no demesne landscapes shown within the Site, however, DL1 (Ballyconra House) and DL2 (Seskin House) border the Proposed Development to the south.

In Durrow, the first edition OS map of 1842 shows the site of the TDR invention in the town located to the immediate east of a building and associated garden plot, with the roads that are extant today located to the east, north and west. The greenspace that exists today had not been established at this time and no water pump is present (Plate 13-2).



Plate 13.2: Extract from the 1842 Ordnance Survey map, showing the proposed TDR accommodation works (in orange)

13.4.2.3 Ordnance Survey Map, 1908, scale 1:2,500

There is little significant change to the overall proposed development area by the time of this map of 1908. The wind farm site remains agricultural in nature, with vernacular farmsteads CH2 and CH3 remaining present. A number of the quarries in the vicinity are now marked as 'disused'. Lime kilns remain common features in the landscape.

In Durrow, the greenspace that forms part of the proposed TDR accommodation works is now established as such and a water pump is marked at this location (Plate 13-3). No other features are marked in the greenspace, the extent of which is shown with a dashed line, indicating that it was not enclosed at the time and no trees or street furniture is indicated.

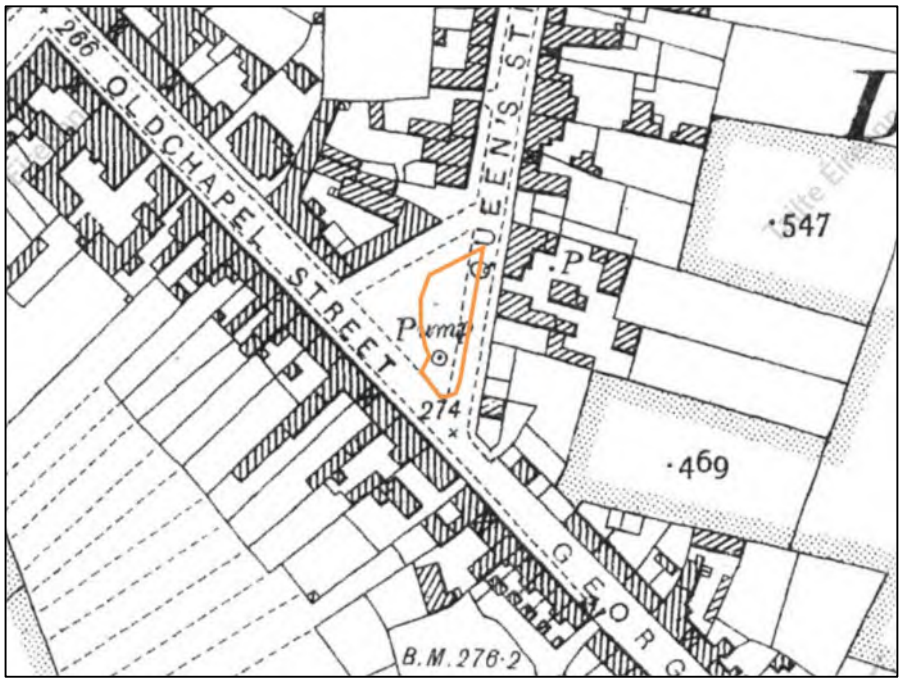

Plate 13.3: Extract from the 1906 Ordnance Survey map showing the proposed TDR accommodation works (in orange)

13.4.3 County Development Plans

13.4.3.1 Archaeology

The Kilkenny City and County Development Plan (2021 – 2027) and the Laois County Development Plan (2021 – 2027) recognise the statutory protection afforded to all RMP sites under the National Monuments Legislation (1930–2014). The development plans list a number of aims and objectives in relation to archaeological heritage (Appendix 13-1). Monuments located within 5km are listed in Table 13-5 and shown in Figures 13-2-7 (Appendix 13-4).

There are two recorded monuments within the Site, a ringfort and an enclosure (AH13 and AH43). A further 282 monuments are recorded within the 5km study area, including a number of sites immediately adjacent to the Site (Table 13.2). Two of the recorded monuments within 5km are additionally protected by a Preservation Order (Motte and Bailey Castle AH52). There are no recorded monuments in the 100m corridor study area for the Proposed Grid Connection. There are no recorded monuments 100m study area of the inventions to the existing road network which will take place for the Turbine Delivery Route.

Within the 10km study area, for the sites of national significance, two monuments are listed. These comprise a tower house, bawn, church and deserted settlement (KK009-037001; KK009-037003; KK009-037004; KK009-038001; KK009-038002) recorded in the townland of Balleen Little, in County Kilkenny and these monuments are subject to a Preservation Order (03/1992), c. 7.28km southwest of Turbine 8. A church (KK013-018001) in Ballylarkin Upper, c. 9.76km southwest of Turbine 8, is a National Monument in State Ownership (Nat. Mon. No. 282). Sites of national significance are shown within Figures 13-8 (Appendix 13-4).

All National Monuments and sites with Preservations Orders possess very high sensitivity. Recorded monuments possess high sensitivity, whereas sites that have been reclassified as redundant records, or subject to archaeological excavation in the past, possess very low sensitivity.

Table 133-5 Recorded Monuments within the Receiving Environment

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
Proposed Wind Farm Site					
AH1	KK001-005001	Castlemarket	Church	T1	4.44km northeast
	KK001-005002	Castlemarket	Graveyard	T1	4.43km northeast
	KK001-005003	Castlemarket	Memorial stone	T1	4.45km northeast
AH2	KK001-006001	Castlemarket	Castle - unclassified	T1	4.86km northeast
	KK001-006002	Castlemarket	Castle - motte	T1	4.86km northeast
	KK001-006003	Castlemarket	Settlement deserted - medieval	T1	4.85km northeast
AH3	KK001-007	Castlemarket	Bridge	T1	4.95km northeast
AH4	KK004-001	Ballynaslee	Enclosure	T3	941m east-northeast
AH5	KK004-002	Ballynaslee	Church	T3	1.07km east-northeast
	KK004-002001	Ballynaslee	Graveyard	T3	1.07km east-northeast
AH6	KK004-003	Ballynaslee,Seskin (Galmoy By.)	Enclosure	T5	275m south
AH7	KK004-004	Ballynaslee	Enclosure	T6	444m east
AH8	KK004-005001	Ballynaslee	Megalithic structure	T7	385m north-northwest
	KK004-005002	Ballynaslee	Megalithic structure	T7	385m north-northwest
AH9	KK004-006	Ballynaslee	Enclosure	T7	443m north
AH10	KK004-007	Ballynaslee	Ringfort - rath	T7	579m northeast
AH11	KK004-008001	Ballyconra	Church	T7	1.15km northeast
	KK004-008002	Ballyconra	Graveyard	T7	1.14km northeast
AH12	KK004-009	Seskin (Galmoy By.)	Redundant record	T8	853m west
	LA035-049	Archerstown	Enclosure	T8	853m west
	LA035-049001	Archerstown	Mass-rock	T6	797m west

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH13	KK004-010	Seskin (Galmoy By.)	Ringfort - rath	T7	262m west-northwest
AH14	KK004-011	Ballyconra	Ringfort - rath	T7	630m east
AH15	KK004-012	Ballyconra	Ring-ditch	T7	1.27km east
AH16	KK004-013001	Ballyconra	Ring-ditch	T7	1.55km east
	KK004-013002	Ballyconra	Ring-ditch	T7	1.56km east
	KK004-013003	Ballyconra	Field system	T7	1.45km east
	KK004-013004	Ballyconra	Ring-ditch	T7	1.48km east
	KK004-013005	Ballyconra	Redundant record	T7	1.47km east
	KK004-013006	Ballyconra	Redundant record	T7	1.47km east
AH17	KK004-014	Ballyconra	Enclosure	T7	1.7km east
AH18	KK004-015	Tinnaslatty (Galmoy By.)	Redundant record	T8	2.52km west-southwest
AH19	KK004-016	Lisdowney	Enclosure	T8	2.24km southwest
AH20	KK004-017	Seskin North	Ringfort - rath	T8	898m southwest
AH21	KK004-018	Seskin North	Enclosure	T8	837m southwest
AH22	KK004-019001	Seskin North	Castle - unclassified	T8	488m southwest
	KK004-019002	Seskin North	Earthwork	T8	527m southwest
AH23	KK004-020	Seskin North	Ringfort - rath	T7	364m southwest
AH24	KK004-021	Ballyconra	Architectural fragment	T7	1.63km southeast
AH25	KK004-022	Ballyconra	Enclosure	T8	1.48km south
	KK004-047	Ballyconra	Enclosure	T7	1.53km south

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
	KK004-048	Ballyconra	Enclosure	T7	1.56km south
AH26	KK004-031	Tinnaslatty (Galmoy By.)	Castle - unclassified	T8	3.1km west
AH27	KK004-034	Ballynaslee	Ringfort - rath	T5	446m southeast
AH28	KK004-035	Tinnaslatty (Galmoy By.)	Moated site	T8	2.98km west-southwest
AH29	KK004-036	Seskin (Galmoy By.)	Ringfort - rath	T4	240m southeast
AH30	KK004-037	Seskin (Galmoy By.)	Burnt spread	T6	779m west
AH31	KK004-038	Seskin North	Redundant record	T8	1.04km southwest
AH32	KK004-040	Ballyconra	Ring-ditch	T7	1.04km east
AH33	KK004-041	Ballynaslee	Enclosure	T1	1.03km east
AH34	KK004-042	Seskin North	House - 17th century	T8	868m southwest
AH35	KK004-043	Ballyconra	Enclosure	T7	1.29km south
	KK004-045	Ballyconra	Enclosure	T7	1.35km south
AH36	KK004-044	Ballyconra	Enclosure	T7	1.14km south
	KK004-052—	Ballyconra	Enclosure	T7	1.11km south
	KK004-053	Ballyconra	Enclosure	T7	1.12km south
	KK004-056	Ballyconra	Enclosure	T7	1.18km south
	KK004-055	Ballyconra	Enclosure	T7	1.2km south

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH37	KK004-046-	Ballyconra	Settlement cluster	T7	1.48km south
	KK004-054	Ballyconra	Enclosure	T7	1.39km south
AH38	KK004-049	Ballyconra	Enclosure	T8	1.32km south
AH39	KK004-050	Ballyconra	Enclosure	T7	1.72km south
AH40	KK004-051	Ballyconra	Enclosure	T7	1.87km south
AH41	KK004-057	Ballyconra	Enclosure	T7	1.15km east
AH42	KK004-058	Ballynaslee	Enclosure	T3	1.09km east-northeast
AH43	KK004-059	Seskin (Galmoy By.)	Enclosure	T8	289m west
AH44	KK005-001	Ballyoskill	Ringfort - rath	T1	3.67km northeast
AH45	KK005-002	Ballyoskill	Castle - ringwork	T3	4.61km east
AH46	KK005-011001	Gorteenara	Church	T7	2.77km northeast
	KK005-011002	Gorteenara	Graveyard	T7	2.76km northeast
	KK005-011003	Gorteenara	Ecclesiastical enclosure	T7	2.75km northeast
AH47	KK005-012001	Tinnalintan	Ritual site - holy well	T7	2.89km northeast
	KK005-012002	Tinnalintan	Enclosure	T7	2.89km northeast
AH48	KK005-013	Coole (Fassadinin By.)	Enclosure	T7	1.93km east-northeast
AH49	KK005-014	Tinnalintan	Ringfort - rath	T7	3.05km east

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH50	KK005-015	Tinnalintan	Ringfort - rath	T7	3.13km east
AH51	KK005-016	Ballymartin (Fassadinin By.)	Redundant record	T7	4.11km east-northeast
AH52	KK005-023001 Pres. Order 5/1983	Moatpark	Castle - motte	T7	1.99km east-southeast
	KK005-023002 Pres. Order 5/1983	Moatpark	Castle - unclassified	T7	1.99km east-southeast
AH53	KK005-024	Rathduff (Fassadinin By.)	Barrow - mound barrow	T7	2.81km southeast
AH54	KK005-025001	Garrannaguilly	Enclosure	T7	3.67km east-southeast
	KK005-025002	Garrannaguilly	Enclosure	T7	3.67km east-southeast
	KK005-093	Garrannaguilly	Redundant record	T7	3.67km east-southeast
AH55	KK005-060001	Sraleagh	Church	T7	3.49km east-southeast
	KK005-060002	Sraleagh	Graveyard	T7	3.49km east-southeast
AH56	KK005-061	Sraleagh	Enclosure	T7	3.28km east-southeast
AH57	KK005-063001	Finnan	Church	T7	4.32km southeast
	KK005-06300	Finnan	Redundant record	T7	4.32km southeast
	KK005-063003-	Finnan	Graveyard	T7	4.32km southeast

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
	KK005-063004	Finnan	Ritual site - holy well	T7	4.34km southeast
AH58	KK005-080	Ballyoskill	Castle - unclassified	T7	4.49km northeast
AH59	KK005-083	Nicholastown (Kilkea And Moone By.)	Enclosure	T3	3.04km east-northeast
AH60	KK005-084	Ballyragget	Enclosure	T7	3.91km east-southeast
	KK005-092	Ballyragget	Enclosure	T7	3.94km southeast
AH61	KK005-088	Tinnalintan	Enclosure	T7	3.01km east
AH62	KK005-089	Ballyragget	Concentric enclosure	T7	3.51km east-southeast
AH63	KK005-090	Ballyragget	Enclosure	T7	3.39km east-southeast
AH64	KK005-091	Ballyragget	Enclosure	T7	3.49km southeast
AH65	KK005-094	Rathduff (Fassadinin By.)	Enclosure	T7	2.45km east-southeast
	KK005-095	Rathduff (Fassadinin By.)	Field system	T7	2.51km east-southeast
AH66	KK005-096	Rathduff (Fassadinin By.)	Enclosure	T7	2.63km east-southeast
AH67	KK009-011001	Lisdowney	Enclosure	T8	4.58km southwest
	KK009-011002	Lisdowney	Linear earthwork	T8	4.64km southwest
AH68	KK009-012	Seskin South	Redundant record	T8	1.99km south-southwest

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
	KK009-012001	Seskin South	Church	T8	1.99km south-southwest
	KK009-012002	Seskin South	Graveyard	T8	1.99km south-southwest
	KK009-012003	Seskin South	Enclosure	T8	1.99km south-southwest
AH69	KK009-013	Ballyconra	Redundant record	T7	1.77km south
	KK009-013001	Ballyconra	Church	T7	1.79km south
	KK009-013002	Ballyconra	Graveyard	T7	1.77km south
	KK009-013003	Ballyconra	Redundant record	T7	1.77km south
	KK009-013004	Ballyconra	Ritual site - holy well	T7	1.85km south
	KK009-013005	Ballyconra	Earthwork	T7	1.7km south
	KK009-013006	Ballyconra	Wall monument	T7	1.79km south
	KK009-013007	Ballyconra	Graveslab	T7	1.79km south
	KK009-013008	Ballyconra	Road - hollow-way	T7	1.9km south
	KK009-013009	Ballyconra	Building	T7	1.77km south
AH70	KK009-014	Parksgrove	Ringfort - rath	T7	2.35km southeast
AH71	KK009-015	Parksgrove	Ring-ditch	T7	2.47km southeast
AH72	KK009-023	Ballyring Upper	Enclosure	T8	4.91km southwest

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH73	KK009-024	Grange (Fassadinin By.)	Enclosure	T8	3.24km south
AH74	KK009-025	Parksgrove	Concentric enclosure	T7	3.43km south-southeast
AH75	KK009-026	Grange (Fassadinin By.)	Enclosure	T7	3.59km south-southeast
AH76	KK009-027	Grange (Fassadinin By.)	Ringfort - rath	T7	3.96km south-southeast
AH77	KK009-028	Grange (Fassadinin By.)	Redundant record	T7	4.4km south-southeast
	KK009-028001	Grange (Fassadinin By.)	Church	T7	4.4km south-southeast
	KK009-028002	Grange (Fassadinin By.)	Graveyard	T7	4.4km south-southeast
AH78	KK009-046	Sweethill	Earthwork	T8	4.88km south
AH79	KK009-069001	Lisdowney	Castle - unclassified	T8	1.99km southwest
	KK009-069002	Lisdowney	House - 16th/17th century	T8	1.99km southwest
AH80	KK009-070	Lisdowney	Ringfort - unclassified	T8	1.89km southwest
	KK009-070001	Lisdowney	Moated site	T8	1.88km southwest
AH81	KK009-087	Lisdowney	Fulacht fia	T8	2.58km southwest
AH82	KK009-089	Parksgrove	Fulacht fia	T7	3.44km south-southeast

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH83	KK009-090	Grange (Fassadinin By.)	House - 18th/19th century	T7	4.49km south-southeast
AH84	KK009-091	Parksgrove	Enclosure	T7	3.38km south-southeast
AH85	KK009-094	Grange (Fassadinin By.)	Fulacht fia	T7	3.52km south-southeast
AH86	KK009-095	Parksgrove	Burnt mound	T7	2.69km south-southeast
	KK009-096	Parksgrove	Metalworking site	T7	2.69km south-southeast
AH87	KK009-097	Parksgrove	Fulacht fia	T7	2.87km southeast
AH88	KK009-098	Parksgrove	Fulacht fia	T7	3.11km south-southeast
AH89	KK009-100	Grange (Fassadinin By.)	Enclosure	T7	4.85km south-southeast
AH90	KK009-101	Grange (Fassadinin By.)	Enclosure	T7	4.81km south-southeast
AH91	KK009-102	Grange (Fassadinin By.)	Ring-ditch	T7	4.83km south-southeast
AH92	KK009-103	Grange (Fassadinin By.)	Enclosure - large enclosure	T8	3.47km south
AH93	KK009-115	Grange (Fassadinin By.)	Redundant record	T8	4.29km south
	KK009-118	Grange (Fassadinin By.)	Redundant record	T8	4.29km south
AH94	KK009-122	Lisdowney	Cross-slab (present location)	T8	2.03km south-southwest

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
	KK009-123	Lisdowney	Cross-slab (present location)	T8	2.03km south-southwest
AH95	KK010-001	Ballyragget	Historic town	T7	3.16km southeast
	KK010-001001	Ballyragget	Castle - tower house	T7	3.25km southeast
	KK010-001002	Ballyragget	Bawn	T7	3.26km southeast
	KK010-001003	Ballyragget	Enclosure	T7	3.3km southeast
AH96	KK010-002001	Ballyragget	Ring-ditch	T7	3.81km southeast
	KK010-002002	Ballyragget	Ring-ditch	T7	3.82km southeast
	KK010-002003	Ballyragget	Ring-ditch	T7	3.79km southeast
	KK010-002004	Ballyragget	Enclosure	T7	3.86km southeast
	KK010-002005	Ballyragget	Ring-ditch	T7	3.85km southeast
	KK010-002006	Ballyragget	Road - road/trackway	T7	3.79km southeast
AH97	KK010-003	Ballyragget	Ringfort - unclassified	T7	3.71km southeast
AH98	KK010-004	Ballyragget	Concentric enclosure	T7	4.02km southeast
AH99	KK010-005001	Donaghmore (Fassadinin By.)	Church	T7	4.18km southeast
	KK010-005002	Donaghmore (Fassadinin By.)	Graveyard	T7	4.18km southeast
	KK010-005003	Donaghmore (Fassadinin By.)	Tomb - chest tomb	T7	4.19km southeast
	KK010-005004	Donaghmore (Fassadinin By.)	Headstone	T7	4.18km southeast

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
	KK010-005005	Donaghmore (Fassadinin By.)	Headstone	T7	4.18km southeast
	KK010-005006	Donaghmore (Fassadinin By.)	Tomb - chest tomb	T7	4.2km southeast
AH100	KK010-006	Donaghmore (Fassadinin By.)	Ringfort - unclassified	T7	4.78km southeast
AH101	KK010-027	Oldtown (Fassadinin By.)	Enclosure - large enclosure	T7	4.45km southeast
AH102	KK010-029	Oldtown (Fassadinin By.)	Enclosure	T7	4.72km southeast
	KK010-161	Donaghmore (Fassadinin By.)	Ring-ditch	T7	4.68km southeast
AH103	KK010-122	Parksgrove	Water mill - unclassified	T7	2.92km southeast
	KK010-166—	Oldtown (Knocktopher By.)	Ring-ditch	T7	4.86km south-southeast
AH104	KK010-139001	Ballyragget,Parksgrove	Ford	T7	2.96km southeast
	KK010-139002	Ballyragget,Parksgrove	Bridge	T7	2.96km southeast
	KK010-167	Oldtown (Knocktopher By.)	Ring-ditch	T7	4.7km south-southeast
	KK010-168	Oldtown (Knocktopher By.)	Ring-ditch	T7	4.68km south-southeast
	KK010-169	Oldtown (Knocktopher By.)	Field system	T7	4.69km south-southeast
AH105	KK010-171	Oldtown (Knocktopher By.)	Enclosure	T7	4.59km south-southeast
	KK010-159	Donaghmore (Fassadinin By.)	Enclosure	T7	4.77km southeast

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH106	KK010-172	Parksgrove	Ring-ditch	T7	3.56km southeast
	KK010-160	Donaghmore (Fassadinin By.)	Ring-ditch	T7	4.66km southeast
	KK010-176	Ballyragget	Ring-ditch	T7	3.6km southeast
AH107	KK010-177	Ballyragget	Ring-ditch	T7	3.65km southeast
	KK010-178	Ballyragget	Ring-ditch	T7	3.69km southeast
AH108	KK010-183	Donaghmore (Fassadinin By.)	Ring-ditch	T7	4.56km southeast
AH109	KK010-189	Donaghmore (Fassadinin By.)	Enclosure	T7	4.86km southeast
AH110	KK010-193	Oldtown (Fassadinin By.)	Enclosure	T7	4.35km south-southeast
AH111	KK010-194	Oldtown (Fassadinin By.)	Enclosure	T7	4.48km south-southeast
AH112	KK010-195	Oldtown (Fassadinin By.)	Ring-ditch	T7	4.32km south-southeast
AH113	KK010-196	Ballyragget	Enclosure	T7	3.57km southeast
AH114	LA029-032-	Moyne	Urn burial	T1	4.89km northwest
AH115	LA029-033	Kilbeg,Dunmore,Moyne	Bridge	T1	4.43km north-northwest
AH116	LA029-034	Swan	Redundant record	T1	4.01km north-northwest
AH117	LA029-035	Dunmore	Church	T1	4.57km north
	LA029-035001	Dunmore	Graveyard	T1	4.57km north

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH118	LA029-037	Watercastle	Ringfort - rath	T1	4.94km north
AH119	LA029-038	Fermoyle	Quarry	T1	4.2km north-northeast
AH120	LA029-042	Castledurrow Demesne,Durrow Townparks	Ecclesiastical site	T2	2.68km north-northwest
AH121	LA029-043001	Castledurrow Demesne	Ritual site - holy well	T1	2.71km north-northwest
	LA029-043002	Castledurrow Demesne	Cross	T1	2.69km north-northwest
AH122	LA029-045	Durrow Townparks	Church	T1	2.6km north
	LA029-045001	Durrow Townparks	Graveyard	T2	2.6km north
AH123	LA029-046	Course	Redundant record	T1	3.05km north
	LA029-046001	Course	Ecclesiastical site	T1	3.06km north
	LA029-046002	Course	Ecclesiastical enclosure	T1	3.05km north
AH124	LA029-047	Grenan	Enclosure	T1	3.03km north-northeast
AH125	LA029-048	Fermoyle	House - fortified house	T1	3.61km north-northeast
	LA029-048001	Fermoyle	Bawn	T1	3.62km north-northeast
AH126	LA029-056001	Durrow Townparks	Stone head	T1	2.6km north
AH127	LA029-061	Moyne	Bullaun stone	T1	4.78km north-northwest

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH128	LA029-077	Fermoyle	Enclosure	T1	4.48km north-northeast
AH129	LA029-078	Dunmore	Field system	T1	4.94km north
AH130	LA029-082	Castlewood	Ring-ditch	T1	3.02km north
AH131	LA029-086	Grenan	Mound	T1	3.48km north-northeast
AH132	LA030-030	Raheenduff (Clanmallagh By.)	Moated site	T1	4.16km northeast
AH133	LA035-004	Newtown (Clanmallagh By.)	Redundant record	T2	4.59km west-northwest
AH134	LA035-005	Derreen And Carrowreagh	Ringfort - rath	T2	4.04km northwest
AH135	LA035-006	Castledurrow Demesne	Enclosure	T2	2.79km northwest
AH136	LA035-007	Durrow Townparks	Enclosure	T2	2.37km northwest
AH137	LA035-008	Toberboe Or Killenny More	Enclosure	T2	3.49km west-northwest
AH138	LA035-009	Knocknagrally Or Killenny Beg	Enclosure	T2	3.29km northwest
AH139	LA035-010	Capponellan,Clonageera	Enclosure	T2	973m northwest
AH140	LA035-011	Tinwear	Enclosure	T2	514m north
AH141	LA035-012	Tinwear	Field boundary	T1	1.02km north
	LA035-013	Tinwear	Enclosure	T1	908m north
AH142	LA035-014	Grenan	Enclosure	T1	1.13km northeast

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH143	LA035-015	Grenan	Enclosure	T1	1.41km northeast
AH144	LA035-016001	Grenan	Enclosure	T1	1.47km northeast
	LA035-016002	Grenan	Moated site	T1	1.46km northeast
AH145	LA035-017	Glebe (Clanmallagh By., Durrow Ed)	Church	T1	2.43km northeast
	LA035-017001	Glebe (Clanmallagh By., Durrow Ed)	Graveyard	T1	2.43km northeast
AH146	LA035-018001	Newtown (Clanmallagh By.)	Enclosure	T2	4.56km west
	LA035-018002	Newtown (Clanmallagh By.)	Linear earthwork	T2	4.54km west
AH147	LA035-023	Graigueavoice	Ringfort - rath	T2	4.62km west
AH148	LA035-024	Graigueavoice	Enclosure	T2	4.57km west
AH149	LA035-025	Graigueavoice	Enclosure	T2	4.46km west
AH150	LA035-026001	Graigueavoice	Ringfort - unclassified	T2	4.26km west
	LA035-026002	Graigueavoice	Field system	T2	4.26km west
AH151	LA035-027	Graigueavoice	Enclosure	T2	4.23km west
AH152	LA035-028	Graigueavoice	Enclosure	T2	3.79km west
AH153	LA035-029	Toberboe Or Killenny More	Ritual site - holy well	T2	3.52km west
AH154	LA035-030	Toberboe Or Killenny More	Enclosure	T2	3.34km west
AH155	LA035-031001	Toberboe Or Killenny More	Church	T2	3.35km west

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
	LA035-031002	Toberboe Or Killenny More	Graveyard	T2	3.33km west
	LA035-031003	Toberboe Or Killenny More	Gateway	T2	3.37km west
	LA035-031004	Toberboe Or Killenny More	Ecclesiastical enclosure	T2	3.34km west
AH156	LA035-032	Toberboe Or Killenny More	Ringfort - unclassified	T2	3.28km west
AH157	LA035-033	Toberboe Or Killenny More	Enclosure	T2	3.16km west
AH158	LA035-034	Toberboe Or Killenny More	Mound	T2	2.75km west
AH159	LA035-035	Toberboe Or Killenny More	Enclosure	T2	3.42km west
AH160	LA035-036	Toberboe Or Killenny More	Enclosure	T2	2.81km west
AH161	LA035-037	Archerstown	Moated site	T4	843m west-southwest
AH162	LA035-038—	Grenan	Enclosure	T3	1.48km east
AH163	LA035-040001	Bunlacken	Enclosure	T2	4.67km west-southwest
	LA035-040002	Bunlacken	Field system	T2	4.71km west-southwest
AH164	LA035-041	Graigueavoice	Ringfort - rath	T2	4.39km west-southwest
	LA035-096	Graigueavoice	Ringfort - rath	T2	4.34km west-southwest
AH165	LA035-044	Ballykealy	Enclosure	T4	3.79km west-southwest

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH166	LA035-045001	Ballykealy	Castle - tower house	T4	3.31km west-southwest
	LA035-045002	Ballykealy	Well	T4	3.33km west-southwest
	LA035-045003	Ballykealy	Bawn	T4	3.31km west-southwest
AH167	LA035-046	Aharney	Ringfort - rath	T6	2.36km west-southwest
AH168	LA035-047	Aharney	Church	T8	2.08km west-southwest
	LA035-047001	Aharney	Graveyard	T8	2.07km west-southwest
AH169	LA035-048	Aharney	Ritual site - holy well	T8	2.02km west-southwest
AH170	LA035-050	Archerstown	Fulacht fia	T8	963m west-southwest
AH171	LA035-051	Archerstown	Ringfort - rath	T8	1.02km west-southwest
AH172	LA035-052	Grenan	Castle - unclassified	T7	1.55km northeast
	LA035-053	Grenan	Castle - motte	T7	1.66km northeast
AH173	LA035-055	Ballykealy	Enclosure	T8	4.87km west-southwest
AH174	LA035-058	Ballykealy	Ringfort - rath	T8	4.16km west-southwest
AH175	LA035-084	Durrow Townparks	Enclosure	T2	2.27km northwest

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance
AH176	LA035-085	Grenan	Enclosure	T3	1.42km east
	LA035-086	Grenan	Enclosure	T3	1.37km east
AH177	LA035-087	Grenan	Field system	T5	1.47km east
AH178	LA035-088	Grenan	Ring-ditch	T3	1.34km east
AH179	LA035-089	Grenan	Enclosure	T1	1.55km northeast
AH180	LA035-090	Grenan	Enclosure	T3	1.45km east-northeast
AH181	LA035-092	Newtown (Clanmallagh By.)	Enclosure	T2	4.84km northwest
AH182	LA035-094	Newtown (Clanmallagh By.)	Ring-ditch	T2	4.03km west
	LA035-095	Newtown (Clanmallagh By.)	Ring-ditch	T2	4.04km west
AH183	KK004-024	Ballyconra	Armorial plaque (present location)	T7	1.68km southeast
	KK004-024001	Ballyconra	House - 17th century	T7	1.67km southeast

13.4.3.2 Record of Protected Structures

The Kilkenny City and County Development Plan (2021 – 2027) and the Laois County Development Plan (2021 – 2027) recognise the value of the built heritage to the county and are committed to the protection and enhancement of this heritage by providing measures for the protection of architectural heritage (Appendix 13-2). These include the establishment of a Record of Protected Structures (RPS) and the designation of Architectural Conservation Areas (ACAs).

There are no recorded architectural heritage sites within the Proposed Development. There are a total of 81 structures recorded within the 5km study area of the Site (Table 13-6, Figures 13-2-7 (Appendix 13-4). Of these, 56 are both protected structures and listed in the NIAH building survey, seven are protected structures but not listed in the NIAH survey and a further 18 are listed in the NIAH only. There are no recorded architectural sites in the 100m corridor study area for the Proposed Grid Connection Route. There are three protected structures within 50m of the proposed temporary accommodation works in Durrow for the TDR. These structures are located within BH18, which is the

BH number designated for the town. There are no protected structures located within 50m of the proposed temporary accommodation works in the townland of Ballynaslee, Co. Kilkenny.

Table 133-6 Built Heritage Sites within the Receiving Environment

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status
Proposed Wind Farm Site							
BH1	C868	12303001	Parksgrove	mill (water)	T7	2.85km southeast	RPS and NIAH
	C16	12303002	Parksgrove	school	T7	2.87km southeast	RPS and NIAH
	C14	12303003	Ballyragget, Parksgrove	bridge	T7	2.96km southeast	RPS and NIAH
	C15	-	Ballyragget	House	T7	3.07km southeast	RPS
	C540	12303004	Ballyragget	house	T7	3.07km southeast	RPS and NIAH
	C539	12303005	Ballyragget	house	T7	3.14km southeast	RPS and NIAH
	C11	12303006	Ballyragget	house	T7	3.16km southeast	RPS and NIAH
	-	12303007	Ballyragget	house	T7	3.17km southeast	NIAH
	C537	12303008	Ballyragget	house	T7	3.18km southeast	RPS and NIAH
	-	12303009	Ballyragget	house	T7	3.19km southeast	NIAH
	C536	12303010	Ballyragget	unknown	T7	3.19km southeast	RPS and NIAH
	C9	-	Ballyragget	Row of 4 Houses	T7	3.21km southeast	RPS
	C12	12303011	Ballyragget	house	T7	3.21km southeast	RPS and NIAH
	C541	12303012	Ballyragget	house	T7	3.22km southeast	RPS and NIAH
	C6	12303013	Ballyragget	church/ chapel	T7	3.28km southeast	RPS and NIAH
	C7	12303014	Ballyragget	house	T7	3.31km southeast	RPS and NIAH
	C479	12303015	Ballyragget	farm house	T7	3.33km southeast	RPS and NIAH
	-	12303017	Ballyragget	water pump	T7	3.15km southeast	NIAH
	-	12303018	Ballyragget	outbuilding	T7	3.23km southeast	NIAH
	-	12303019	Ballyragget	gates/railings /walls	T7	3.25km southeast	NIAH
	C870	12303020	Ballyragget	presbytery/ parochial/ curate's house	T7	3.32km southeast	RPS and NIAH

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status
BH1	-	12303022	Ballyragget	vent pipe	T7	3.37km southeast	NIAH
	C871	12303023	Ballyragget	house	T7	3.31km southeast	RPS and NIAH
	C872	12303024	Ballyragget	bridge	T7	3.28km southeast	RPS and NIAH
BH2	-	12400101	Castlemarket	bridge	T1	4.39km northeast	NIAH
BH3	-	12400102	Castlemarket	bridge	T1	4.95km northeast	NIAH
BH4	C376	12400401	Seskin North	house	T8	867m southwest	RPS and NIAH
	-	12400403	Seskin North	gates/railings/walls	T8	1.06km southwest	NIAH
BH5	C312	12400402	Ballyconra	house	T7	1.67km southeast	RPS and NIAH
	-	12400404	Ballyconra	gates/railings/walls	T7	1.55km southeast	NIAH
BH6	C262	12400501	Earlsgarden	church/chapel	T1	3.88km northeast	RPS and NIAH
BH8	C347	12400901	Grange	country house	T7	4.49km south-southeast	RPS and NIAH
	-	12400902	Grange	bridge	T7	4.5km south-southeast	NIAH
	-	12400916	Grange	farmyard complex	T7	4.5km south-southeast	NIAH
	D147	12400917	Grange	dovecote/pigeon house/aviary	T7	4.56km south-southeast	RPS and NIAH
	-	12400918	Grange	bridge	T7	4.59km south-southeast	NIAH
	-	12400919	Grange	gate lodge	T7	4.58km south-southeast	NIAH
	-	12400920	Grange	gates/railings/walls	T7	4.57km south-southeast	NIAH
BH9	C325	12400907	Acragar	country house	T8	4.39km south	RPS and NIAH
BH10	C280	12400908	Lisdowney	church/chapel	T8	2.05km south-southwest	RPS and NIAH
BH11	425	12802942	Moyne	house	T2	4.95km north-northwest	RPS and NIAH
BH12	167	12803501	Glebe	church/chapel	T1	2.43km northeast	RPS and NIAH

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status
	169	12803502	Glebe	rectory/ glebe/ vicarage/ curate's house	T1	2.35km northeast	RPS and NIAH
	168	12803503	Grenan	school	T1	2.39km northeast	RPS and NIAH
BH13	525	12803505	Grenan	house	T1	1.3km northeast	RPS and NIAH
BH14	526	12803506	Durrow Townparks, Grenan, Tinwear	bridge	T1	1.26km northeast	RPS and NIAH
BH15	449	12803507	Durrow Townparks	house	T1	1.74km north	RPS and NIAH
BH16	528	12803509	Clonageera	house	T2	1.2km northwest	RPS and NIAH
BH17	448	12803512	Newtown	house	T2	4.83km northwest	RPS and NIAH
BH18	772	12900901	Castledurrow Demesne, Course, Durrow Townparks	bridge	T1	2.61km north-northwest	RPS and NIAH
	154	12900903	Durrow Townparks	house	T1	2.55km north-northwest	RPS and NIAH
	150	12900904	Durrow Townparks	house	T1	2.57km north-northwest	RPS and NIAH
	149	12900905	Durrow Townparks	house	T1	2.57km north-northwest	RPS and NIAH
	147	12900906	Durrow Townparks	house	T1	2.58km north-northwest	RPS and NIAH
	146	12900907	Durrow Townparks	house	T1	2.58km north-northwest	RPS and NIAH
	145	12900908	Durrow Townparks	house	T1	2.59km north-northwest	RPS and NIAH
	144	12900909	Durrow Townparks	house	T1	2.59km north-northwest	RPS and NIAH
BH18	151	12900910	Durrow Townparks	church/ chapel	T1	2.6km north-northwest	RPS and NIAH
	152	12900911	Castledurrow Demesne	gate lodge	T1	2.53km north-northwest	RPS and NIAH

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status
	164	12900912	Durrow Townparks	church/ chapel	T2	2.45km north-northwest	RPS and NIAH
	-	12900913	Durrow Townparks	house	T2	2.48km north-northwest	NIAH
	166	12900914	Durrow Townparks	house	T2	2.48km north-northwest	RPS and NIAH
	155	12900915	Durrow Townparks	court house	T1	2.43km north-northwest	RPS and NIAH
	157	12900916	Durrow Townparks	house	T2	2.43km north-northwest	RPS and NIAH
	156	12900917	Durrow Townparks	house	T1	2.42km north-northwest	RPS and NIAH
	-	12900918	Durrow Townparks	house	T1	2.28km north-northwest	NIAH
	790	12900919	Durrow Townparks	Group of houses	T1	2.25km north-northwest	RPS and NIAH
	162	12900920	Durrow Townparks	church/ chapel	T1	2.22km north-northwest	RPS and NIAH
	165	12900921	Durrow Townparks	school	T1	2.14km north-northwest	RPS and NIAH
	158	12900922	Durrow Townparks	house	T1	2.41km north-northwest	RPS and NIAH
	159	12900924	Durrow Townparks	house	T1	2.48km north-northwest	RPS and NIAH
	796	12900925	Durrow Townparks	House	T1	2.46km north-northwest	RPS and NIAH
	798	12900927	Durrow Townparks	house	T1	2.48km north-northwest	RPS and NIAH
	409	12900931	Castledurrow Demesne	country house	T2	2.67km north-northwest	RPS and NIAH
	163	-	Durrow	Community Hall	T1	2.14km north northwest	RPS
	148	-	Durrow	House	T1	2.58km north-northwest	RPS

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status
BH19	802	12900932	Castledurrow Demesne	obelisk	T2	2.95km north-northwest	RPS and NIAH
BH20	880	-	Newtown	Thatched House	T2	4.2km northwest	RPS
BH21	820	-	Dunmore	Gazebo At Dunmore Estate	T1	4.63km north	RPS
BH22	851	-	Castlewood	Bridge	T1	3.56km north	RPS
BH23	-	12400903	Grange	house	T8	4.9km south-southeast	NIAH
Proposed TDR Temporary Accommodation Works							
BH18	158	12900922	Durrow Townparks	house	N/A	17m north of TDR	RPS and NIAH
	156	12900917	Durrow Townparks	house	N/A	31m northwest of TDR	RPS and NIAH
	155	12900915	Durrow Townparks	court house	N/A	42m northwest of TDR	RPS and NIAH

13.4.3.3 Architectural Conservation Areas

The Kilkenny City and County Development Plan (2021 – 2027) and the Laois County Development Plan (2021 – 2027) recognise the value of the built heritage to the county and are committed to the protection and enhancement of this heritage by providing measures for the protection of architectural heritage (Appendix 13-2). These include the establishment of a Record of Protected Structures (RPS) and the designation of Architectural Conservation Areas (ACAs).

There are two Architectural Conservation Areas within the 5km study area of the proposed wind farm site. These are the Durrow ACA, c. 2.13km north of T1 and the Ballyragget ACA c. 788m south of the Proposed Grid Connection. The TDR will traverse the Durrow ACA along The Square, Mary Street and Carrigan Street in Durrow Town centre (Plate 13-1a).

As part of the accommodation works proposed as part of the TDR, an existing greenspace in Durrow town (as shown in Plate 13-1b) will be affected on a temporary basis. There are no protected structures adjoining this area, but two Cultural Heritage sites were identified in and adjacent to the greenspace. These comprise a water pump (CH25) at the southern point of the green and a memorial wall (CH26) located 3m to the northwest. A terrace of post medieval houses are located 10m to the southwest (CH27) and a larger post medieval house 10m to the east (CH28). A historic boundary wall and post medieval house are located 7m to the northwest (CH29) (Figure 13-9). A historic view of the green area, dating to the 1950s, is shown in Plate 13-4 (Source: Old Durrow Photos Facebook Group).



Plate 13-4: Proposed accommodation works area (on left of image) dating to the 1950s

13.4.4 National Inventory of Architectural Heritage

13.4.4.1 NIAH Buildings Survey

A review of the National Inventory of Architectural Heritage (NIAH) survey of Counties Laois (2001) and Kilkenny (2004) was undertaken as part of this assessment. A total of 74 structures are listed in the NIAH within the 5km study areas of the proposed wind farm site, which includes 56 which are also protected structures. This includes three structures which are considered to be of national significance- a church in Ballyragget (BH1), a house in Grenan (BH13), and a country house in Castledurrow Demesne (Castledurrow House BH18). Structures are included in Table 13-6 above (Appendix 13-4, Figures 13-1-7).

13.4.4.2 NIAH Garden Survey

The first edition Ordnance Survey maps of Counties Kilkenny and Laois (1842) show the extent of demesne landscapes as shaded portions of land within the 5km study area. These were established as a naturalised landscaped setting for the large houses of the landed gentry.

There are 14 designed landscapes shown on the first edition OS map of 1842 within 5km study area of the proposed wind farm site, including 11 gardens recorded within the NIAH Garden Survey. These designed landscapes have been assigned DL reference numbers for the purposes of this assessment (Table 13-7, Appendix 13-4, Figures 13-2-7).

Table 133-7 Designed Landscapes in the Receiving Environment

DL No	NIAH Garden ID	Name	Townland	Nearest Turbine	Distance
DL1	1683	Ballyconra House	Ballyconra	T7	786m south
DL2	1677	Seskin House	Seskin North	T8	126m south

DL No	NIAH Garden ID	Name	Townland	Nearest Turbine	Distance
DL3	-	Aharney House	Aharney	T8	1.48km west-southwest
DL4	-	Archerstown House	Archerstown	T2	802m west-southwest
DL5	254	Grenan House	Grenan	T1	961m east
DL6	246	Castledurrow House	Castledurrow Demesne	T2	1.62km northwest
DL7	-	Ballyragget Lodge	Ballyragget	T7	2.9km southeast
DL8	1684	Grange House	Grange	T7	4.1km south
DL9	1681	Beechhill House	Sweethill	T8	4km south
DL10	1678	Brookville House	Acragar/ Sweethill	T8	3.5km south
DL11	1674	Tinnaslatty House	Tinnaslatty	T8	2.37km southwest
DL12	244	Moyne House	Moyne/ Kylebeg	T1	3.55km north-northeast
DL13	249	Dunmore House	Dunmore/ Coolcorberry	T1	3.7km north
DL14	255	Attanagh House	Glebe/ Grenan	T1	1.99km east

13.4.5 Topographical Files of the National Museum of Ireland

Information on stray archaeological finds from the study area in Counties Laois and Kilkenny has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the study area. The recorded finds from the study area of the proposed wind farm site are detailed below in Table 13.8.

Table 133-8 Stray Finds listed in the National Museum's Topographical Files

NMI Ref	Find	Townland	Description
RSAI218	Horse tooth	Lisdowney	One horse tooth found March 1850 in a cist in parish of Lisdowney, Co. Kilkenny.
RSAI285	Vase Urn	Coole	Ceramic vase urn found in cist at Ballyouskill, Co. Kilkenny.

NMI Ref	Find	Townland	Description
IA/26/2009, 2009:18	Polished stone axehead	Coole	Polished stone axehead, extensive signs of wear and chipping, especially on the butt and on one long side. L8.9, W 4.8, T2.7. Found on bed of a stream.
SA1928:622	Irin flax hackle	Durrow	Wooden handle, 3 rows of iron teeth. Found Durrow, Co. Laois.

13.4.6 Aerial Photographic Analysis

Inspection of the aerial photographic coverage of the proposed wind farm site and Proposed Grid Connection held by *Tailte Éireann* (1995–2013), Google Earth (2005–2024), and Bing Maps (2023) revealed that the proposed development area and its surroundings have remained rural in nature and in use as agricultural land.

CH1, refer to Section 13.4.7 below, is visible on the satellite imagery as a heavily vegetated sub-circular anomaly (Table 13.9). While local knowledge suggests this may be the site of an enclosure, no conclusive evidence of such can be discerned from the available aerial photography.

No additional previously unknown features of archaeological potential were identified within the proposed project boundary from the available satellite imagery.

13.4.7 Cultural Heritage

Cultural heritage (CH) assets can incorporate both archaeological and built heritage remains, which do not have statutory protection, or which have not been previously recorded as heritage assets in any known datasets. Cultural heritage can also incorporate more ephemeral aspects of the heritage environment, including folklore. A number of sources were reviewed in order to identify cultural heritage assets within the 2km study area of the proposed wind farm site and the 50m study area of the Proposed Grid Connection and Turbine Delivery Route (as laid out in Table 13-9 and shown on Figures 13-2-7). These included the historic Ordnance Survey mapping, aerial photographic coverage and field inspection.

Table 133-9 Cultural Heritage Sites within the Receiving Environment

CH No	Townlands	Description	Nearest Turbine	Distance from development
Proposed Wind Farm				
CH1	Seskin	A sub-oval stand of vegetation which is believed locally to be an enclosure. It does not appear in the historic OS mapping and field inspection could not confirm if this feature is of archaeological potential.	T4	59m north
CH2	Seskin	A ruined farm house and outbuilding which appear on the historic OS mapping of 1842. Four-bays, two storeys masonry structure with	T5	0m west of access road

CH No	Townlands	Description	Nearest Turbine	Distance from development
		collapsed internal floors. Pitched roof with slates removed. Outbuildings to the west. Principal elevation faces to the south.		
CH3	Ballyconra	A vernacular farmyard complex which is shown on the first edition OS map of 1842. The main house and outbuildings survive in good condition with additional modern agricultural structures.	T7	711m south-southeast
CH4	Ballynaslee	Ruined vernacular building that is marked on the first edition OS map of 1842. Today a number of overgrown masonry walls remain.	T3	23m south of temporary construction compound
CH5	Seskin	Remains of a lime kiln, located adjacent to the site of a quarry, both of which are marked in the historic mapping.	T5	26m west of access road
CH6	Durrow Townparks	Single-storey four-bay vernacular house shown on the first edition OS map of 1842. Appears to be incorporated into a larger house.	T1	1.78km north-northwest
CH7	Durrow Townparks	Ruined vernacular building shown on the first edition OS map of 1842 within a complex of buildings and with a lime kiln located along a lane to the east.	T1	1.43km north
CH8	Tinwear	Ruins of a vernacular farmstead shown on the first edition OS map of 1842, now incorporated into a modern farmyard. The modern farmyard sits on the site of a former brickworks shown on the OS map of 1908.	T1	1.08km north
CH9	Capponellan	A small group of buildings shown on the first edition OS map of 1842, complete with a possible orchard. It is not shaded as a demesne landscape but is labelled as 'Capponellan House'.	T2	1.54km northwest
CH10	Capponellan	A small vernacular farmstead shown on the first edition OS map of 1842, expanded to three buildings by the 1908 map. Now forms part of a modern farmyard. .	T2	1.71km northwest

CH No	Townlands	Description	Nearest Turbine	Distance from development
CH11	Archerstown	A group of three ruined structures now overgrown, shown on the historic OS mapping as a farmyard complex.	T2	497m northwest
CH12	Archerstown	Ruins of a vernacular structure shown on the first edition OS map of 1842. Only one gable remains upstanding.	T4	1.51km west
CH13	Archerstown	An L-shaped vernacular structure shown on the first edition OS map of 1842, now forming part of a modern farmyard.	T6	1.03km west
CH14	Aharney	Vernacular cottage shown on the first edition OS map of 1842.	T8	1.67m west-southwest
CH15	Lisdowney	Group of vernacular structures and lime kiln shown on the first edition OS map of 1842. It is unclear from the satellite imagery how much of these structures remain.	T8	1.82km southwest
CH16	Seskin Little	Vernacular farmstead, group of three structures shown on the first edition OS amp of 1842. Now incorporated into a modern farmyard.	T8	1.71km southwest
CH17	Seskin North	Group of three vernacular structures, arranged in a linear pattern along a local road. Shown on the first edition OS map of 1842, the easternmost structure is labelled as a Smithy in the 1908 mapping.	T8	1.42km south-southwest
CH18	Seskin South	A vernacular farmstead shown on the first edition OS map of 1842. Now incorporated into a modern farmyard.	T8	1.91km south
CH19	Ballyconra	A vernacular farmstead shown on the first edition OS map of 1842, now forms part of a modern farmyard.	Proposed Grid Connection	410m east of the Proposed Grid Connection
CH20	Ballyconra	A group of vernacular structure shown on the first edition OS map. Now forms part of a modern farmyard.	Proposed Grid Connection	0m east of the Proposed Grid Connection
CH21	Grenan	Two groups of vernacular structures shown on the first edition OS map of 1842. Both groups together form a modern farm complex.	T1	1.72km northeast

CH No	Townlands	Description	Nearest Turbine	Distance from development
CH22	Ballynaslee	L-shaped vernacular structure shown on the first edition OS amp of 1842. A modern farmyard sits on the site today and it is unclear how much of the structures are upstanding based on the available satellite imagery.	T1	547m east
CH24	Ballynaslee	Vernacular farmstead shown on the first edition OS map of 1842. It is unclear if any of the vernacular structures remain upstanding as the site is currently occupied by a modern farmyard.	Proposed Grid Connection	81m west
Proposed TDR Temporary Accommodation Works				
CH25	Durrow Townparks	Cast iron water pump dating to post 1870 surmounted on an altered plinth and surrounded by bollards and a chain. Located within Durrow ACA.	TDR	0m
CH26	Durrow Townparks	Recent 'Emigration Memorial Wall', including stones describing the 'Legend of St Benedict – The Durrow Pope'. Located within Durrow ACA.	TDR	3m northwest
CH27	Durrow Townparks	Terrace of four 19th century houses. Two storey with inbuilt vehicular entrances building in. Located within Durrow ACA.	TDR	10m southwest
CH28	Durrow Townparks	Two storey, 6 bay house 19th century house with adjacent single storey commercial unit.	TDR	8m east
CH29	Durrow Townparks	Two storey, 6 bay renovated 19th century house with replacement roof. Including historic garden boundary wall – formerly part of outbuildings.	TDR	7m northwest

13.4.7.1 Toponomy of Townlands

Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long-forgotten site and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830's and 1840's, when the entire country was mapped for the first time. Some of the townland names in the 5km study area of the proposed wind farm site are of Irish origin and through time have been anglicised. The main references used for the place name analysis is Irish Local Names Explained by P.W Joyce (1870) and logainm.ie.

A description and possible explanation of each place name in the 5km study area of the proposed wind farm site are provided in Table 13-10 below.

Table 133-10 Placename Analysis

Townland	Origin	Derivation	Possible Meaning
Ballyconra	Irish	*Béal Átha Conrátha*	Mouth of the ringfort/ford
Ballynaslee	Irish	*Baile na Slí*	The homestead path
Coole	Irish	*An Chúil*	The corner/nook
Lisdowney	Irish	*Lios Dúnaígh*	Ringfort of Dunaigh
Moatpark	English	-	Makes reference to a nearby moat
Parksgrove	English	-	Parks grove
Russellstown	English	-	Russells town
Seskin	Irish	*An Seisceann*	The swamp
Seskin Little	Irish	*An Seisceann*	The swamp - likely later subdivided into multiple adjacent townlands)
Seskin North	Irish	*An Seisceann*	The swamp likely (later subdivided into multiple adjacent townlands)
Seskin South	Irish	*An Seisceann*	The swamp likely (later subdivided into multiple adjacent townlands)
Aharney	Irish	*Áth Charna*	The ford of the heap
Archerstown	English	-	Archer's town
Capponellan	Irish	*Ceapach Nialláin*	Tillage-plot of Niallán
Castledurrow Demesne	English	-	Castledurrow Demesne
Castlewood	English	-	Castle wood
Clonageera	Irish	*Cluain na gCaorach*	The pasture of the sheep
Durrow Townparks	English	-	Durrow townparks
Glebe	English	-	Glebe
Grenan	Irish	*An Grianán*	The eminent place
Tinwear	Irish	*Tigh an Mhaoir*	The house of the steward
Toberboe or Killenny More	Irish	*Tobar Baoith nó Cill Fhinnche Mhór*	The well of Baoth or the church of Finneach

Townland	Origin	Derivation	Possible Meaning
Acragar	Irish	*An tAcra Gearr*	The short acre
Ballyboodin	Irish	*Baile Uí Bhuadáin*	The town/homestead of Ó Buadáin
Ballygarvan Glebe	Irish	*Baile Uí Gharbháin*	The town/homestead of Ó Garbháin
Ballygauge Beg	Irish	*Baile Dhabhag Beag*	The town/homestead of Dabhag (likely subdivided into Mor and Beg at a later date)
Ballygowney	Irish	*Baile Uí Ghamhna*	The town/homestead of O' Gaffney
Ballykealy	Irish	*Baile Uí Chaollaí*	The town/homestead of the O' Caollai
Ballymartin	Irish	*Baile Uí Mháirtín*	The town/homestead of the Martins
Ballynafunshin	Irish	*Baile na Fuinseann*	The town/homestead of the ash tree
Ballynalacken	Irish	*Baile na Leacan*	The town/homestead on the hillside
Ballyoskill	Irish	*Baile Oscail*	The town/homestead of the hallow
Ballyragget	Irish	*Béal Átha Ragad*	Mouth of the ford
Ballyring Lower	Irish	*Baile Rinn*	The town/homestead on the headland (likely sub-divided into Lower and Upper at a later date)
Ballyring Upper	Irish	Baile Rinn	The town/homestead on the headland (likely sub-divided into Lower and Upper at a later date)
Barrackquarter or Ross	Irish	*An Ros*	The wooded height/promontory
Brandra	Irish	*Branra*	Fallow land
Bunlacken	Irish	*Bun Leacan*	The bottom of the hillside
Castlemarket	English	-	Castle market
Castlemarket East	English	-	Castle market
Castlemarket West	English	-	Castle market
Castleview	English	-	Castle view
Clone	Irish	*Cluain*	Meadow
Clontubbrid	Irish	*Cluain Tiobraide*	The meadow of the spring
Clorhaun	Irish	*An Cloichreán*	The stoney place
Coolcorberry	Irish	*Cúil Chairbre*	The corner of Cairbre

Townland	Origin	Derivation	Possible Meaning
Coolnabehy	Irish	*Cúil na Beithe*	The corner of birch
Course	English	-	Course
Craigueavoice	Irish	*Gráig an Bhúisigh*	The hamlet of An Búiseach
Cullahill Mountain	Irish	*Sliabh na Cúlchoille*	The hill of the back wood
Curraghacronacon	Irish	*Currach Uí Chrónagáin*	The wet land/marsh of Ó Crónagáin
Derreen and Carrowreagh	Irish	*An Doirín agus An Cheathrú Riabhach*	The little oak wood and the grey quarterland
Donaghmore	Irish	*Domhnach Mór*	The big church
Dunmore	Irish	*An Dún Mór*	The big fort
Earlsgarden	English	-	Earl's garden
Fermoyle	Irish	*Formaoil*	The round hill
Finnan	Irish	*Fionnán*	The white land
Galesquarter	English	-	Gael's quarter
Garrannaguilly	Irish	*Garrán na nGiollaí*	Grove of the servants
Gorteenara	Irish	*Gort an Arbha*	Field of the (?)
Gorteennahilla	Irish	*Goirtín na hUille*	The little field of the corner-hill
Grange	English	-	Grange
Gurraun	Irish	*An Garrán*	The grove
Knockanoran	Irish	*Cnoc an Fhuaráin*	The hill of the spring
Knocknagrally or Killenny Beg	Irish	*Cnoc na Greallaí nó Cill Fhinnche Bheag*	The hill of the miry ground or church of Finneach
Kylebeg	Irish	*An Chill Bheag*	The small church
Lisbigney	Irish	*Lios Bhigne*	The ringfort of Bigne
Lisduff	Irish	*An Lios Dubh*	The black ringfort
Loughnamuck	Irish	*Loch na Muc*	The lake of the pigs
Monphole	Irish	*Móin Phóil*	The bog of (?)
Moyne	Irish	*An Mhaighean*	The homestead

Townland	Origin	Derivation	Possible Meaning
Newtown	English	-	New town
Nicholastown	English	-	Nicholas town
Oldtown	English	-	Old town
Raheenduff	Irish	*An Ráithín Dubh*	The little black ringfort
Raheenleagh	Irish	*An Ráithín Liath*	The little grey ringfort
Rath	Irish	*Rath*	The ringfort
Rathduff	Irish	*An Ráth Dhubh*	The black ringfort
Rosconnell Glebe	Irish	*Ros Chonaill*	The wooded height of Conall
Skinstown	English	-	Skins town
Sraleagh	Irish	*An tSraith Liath*	The grey valley or the valley of the grey horse
Stewartsgrove	English	-	Stewart's grove
Swan	English	-	Swan
Sweethill	English	-	Sweet hill
Tifeaghna (Mt Garrett)	Irish	*Tigh Fiachna*	The house of Fiachna
Tinnalintan	Irish	*Tigh na Liontán*	The house of the nets
Tinnaslatty	Irish	*Tigh na Slaite*	The house of the rod
Watercastle	English	-	Water castle

13.4.7.2 Townland Boundaries

The townland is an Irish land unit of considerable longevity as many of the units are likely to represent much earlier land divisions. The term townland was not used to denote a unit of land until the Civil Survey of 1654. It bears no relation to the modern word 'town' but like the Irish word baile refers to a place. It is possible that the word is derived from the Old English tun land and meant 'the land forming an estate or manor' (Culleton 1999, 174).

Gaelic land ownership required a clear definition of the territories held by each sept and a need for strong, permanent fences around their territories. It is possible that boundaries following ridge tops, streams or bog are more likely to be older in date than those composed of straight lines (ibid. 179).

The vast majority of townlands are referred to in the 17th century, when land documentation records begin. Many of the townlands are mapped within the Down Survey of the 1650s, so called as all measurements were carefully 'laid downe' on paper at a scale of forty perches to one inch. Therefore, most are in the context of pre-17th century landscape organisation (McErlean 1983, 315).

In the 19th century, some demesnes, deer parks or large farms were given townland status during the Ordnance Survey and some imprecise townland boundaries in areas such as bogs or lakes, were given more precise definition (ibid.). Larger tracks of land were divided into a number of townlands, and named Upper, Middle or Lower, as well as Beg and More (small and large) and north, east, south and west (Culleton 1999, 179). By the time the first Ordnance Survey had been completed a total of 62,000 townlands were recorded in Ireland.

Although not usually recorded as archaeological monuments in their own right, townland boundaries are important as cultural heritage features. It remains unclear how old some of these land units actually are, though it has been convincingly argued that many may date to at least the medieval period and, in some cases, may be significantly older than this (McErlean 1983; MacCotter 2008).

The Proposed Wind Farm is located within the townlands of Ballyconra, Seskin, Seskin North and Ballynaslee, County Kilkenny, and Archerstown and Tinwear, County Laois. The Proposed Grid Connection passes through Ballyconra and Moatpark in County Kilkenny. The townland boundaries within the overall development area are retained in the landscape as field boundaries as shown on Figure 13-1. Of the most significant among is the townland boundary between Archerstown and Tinwear to the north and Seskin and Ballynaslee to the south, as this boundary also functions as the county boundary between County Laois to the north and County Kilkenny to the south.

13.4.8 Field Inspection

A field inspection of the Site was carried out on the 28th May 2024, 5th November 2024 and 11th September 2025. It is noted that the Proposed Wind Farm is located within good quality pasture for the most part and therefore the potential exists that previously unrecorded archaeological remains survive within the footprint of the proposed development, which have no upstanding remains. This is especially pertinent to areas such as borrow pits, the substation site and compound (Plates 13-5 to 13-13). One potential enclosure was identified located c. 59m north of T4 (CH1). This comprises an oval area of woodland occupying a moderate north facing slope (Plate 13-12). No obvious remains of an enclosure were noted, but the landowner notes that this may be the site of an enclosure.

The field inspection did identify a number of built heritage sites within the proposed development area, which although are not listed as protected structures or listed in the National Inventory of Architectural Heritage, do possess architectural heritage merit. This includes a vernacular farmstead at the very southern extent of the development area (CH3, Plate 13-14) and an early 19th century house (in ruins)(CH2) and lime kiln (CH5) between T5 and 6 (Plates 13-15-17).

The very overgrown ruins of a small vernacular farm are located to the immediate south of a proposed temporary construction compound (CH4, Plate 13-18). The built remains are heavily overgrown but some masonry remains visible.

The Proposed Gird Connection will follow the national road network to the east of the development area. The eastern section of the route will cross three fields of pasture that slopes gently to the west before travelling beneath the River Nore via horizontal directional drilling. No previously unrecorded archaeological or cultural heritage features were noted in this area (Plates 13.19-20).



Plate 13-5 Site of T7, facing west



Plate 13-6 Site of T8, facing southwest



Plate 13-7 Site of T6, facing east



Plate 13-8 Site of T5, facing north-northwest



Plate 13-9 Site of borrow pit, facing east



Plate 13-10 Site of compound, facing east



Plate 13-11 Site T2, facing northeast



Plate 13-12 Site T4, facing southeast (CH1 in mid-ground)



Plate 13-13 Site T1, facing northeast



Plate 13-14 Vernacular farm (CH3), facing north



Plate 13-15 Ruined house (CH2), facing northwest



Plate 13-16 Ruined house (CH2), facing south



Plate 13-17 Lime kiln (CH5), facing west



Plate 13-18 Ruined structure at CH4, facing southwest



Plate 13-19 Route of cable, facing northeast towards Ballyragget substation



Plate 13-20 Route of cable, facing west-southwest

The location of the proposed TDR temporary accommodation works in Durrow has also been inspected. The existing greenspace is characterised by five non-native trees and a smaller blossom tree, along with a triangular green space and the water pump (CH25) at its southern extent that is marked on the 25 inch OS map. The water pump occupies a concrete plinth, which represents a modified and smaller plinth than the structure shown in the photograph from the 1950s (Plate 13-4). The plinth is surrounded by bollards and a chain, two of which may have been present in the 1950s, with the remaining five being more modern in date. The water pump is surrounded by shrubbery and a manhole cover is present within the plinth (Plates 13-21, 22). There are also four ornate lamp stands in the greenspace, but these are modern in origin. The trees have been present since at least 1950, as shown in Plate 13-4 and the pump was also present at this time.

To the west and northwest of the proposed accommodation area is a low stone wall, a portion of which has recently been constructed to form a car parking bay. This portion of the wall (CH26) includes a number of memorial stones relating to the 'Emigration Memorial Wall', including stones describing the 'Legend of St Benedict – The Durrow Pope' (Plate 13-23). This wall will be retained as part of the proposed accommodation works. With the exception of water pump, there are no other items of street furniture. The footpaths and kerbs are all modern in materials and form.

In the surrounding area are a number of structures that possess heritage significance but are not listed in the RPS or NIAH. They are located within the Durrow ACA, as is the location of the proposed TDR accommodation works. CH27 comprises a terrace of 19th century houses, which are visible in Plate 13-21). CH28 is a 19th century house, with adjacent commercial unit, which is visible in the 1950s photograph (Plate 13-4).

CH29 comprises a renovated 19th century house located to the northwest of the accommodation works, which fronts onto Old Chapel Street. A masonry boundary wall (formerly part of an outbuilding) forms the boundary between the garden associated with the property and Tae Lane and the greenspace.



Plate 13-20 Water pump (CH25), facing south (CH27 is the background)



Plate 13-21 Location of proposed TDR intervention in Durrow, facing south



Plate 13-23 Memorial wall (CH26), facing southwest

13.5 Likely Effects and Associated Mitigation Measures

13.5.1 Do Nothing Scenario

There will no impact on the archaeological, architectural or cultural heritage resource if the Proposed Development were not to proceed.

13.5.2 Construction Phase

The construction of the Proposed Development will not result in any direct, negative effects on the recorded archaeological resource as none of these sites are located within the footprint of the development that requires excavations and ground works.

The construction of the proposed TDR accommodation works within Durrow will include the removal of existing trees, ornamental street furniture, signage and electricity/telecommunication poles, within a portion of the existing green space. Protection mats and stone will be laid over the grass to maintain the existing ground level. The memorial wall (CH26) will be retained in-situ. The proposed accommodation works at this location will result in a direct, negative, temporary impact upon the ACA of Durrow and water pump (CH25). The sensitivity of the ACA is high, but given the fact that the area is small in relation to the overall ACA and does not form part of the original 18th century layout of the town (in its current form), the magnitude of impact is considered low. This will result in a moderate significance of effect.

The temporary removal of CH25 water pump as part of the accommodation works will result in a direct, negative temporary impact on the feature, although the plinth upon which it stands will be retained in-situ. The sensitivity of the feature is low and the magnitude of impact is high, resulting in a slight significance of effect.

The construction of the proposed TDR accommodation works within Durrow will result in an indirect, negative, temporary effect on the 19th century structures that surround the green space, including CH27, 28 and 29. The sensitivity of the structures is considered to be medium and the magnitude of impact low, resulting in a slight significance of effect.

It is possible that the construction of the wind farm and the cable route, in greenfield area, will result in direct, negative (permanent) effects on previously unrecorded archaeological remains that may survive within these areas with no surface expression. Construction effects comprise topsoil stripping and excavations associated with the installation of turbines, crane pads, cable routes, access roads, temporary construction compound and borrow pit. Effects, dependent on the sensitivity of any remains identified and prior to the application of mitigation, have the potential to be moderate to very significant.

The construction of the wind farm or cable route will not result in any effects on the CH sites identified during the course of this assessment. There will be a number of direct, negative effects on sections of townland boundaries that will be crossed by the access road or where sections will be removed due to ecological constraints. One small section will be removed between Seskin and Ballycrona; three short sections will be removed between Seskin and Ballynaslee; two small sections will be removed between Seskin and Tinwear and three small sections between Archerstown and Tinwear. The townland boundaries are of medium sensitivity and the magnitude of impact is low. Overall, the significance of effect is considered slight in each case.

Following the completion of construction, the materials required for the accommodation works within the greenspace in Durrow ACA will be removed and the trees, ornamental street furniture, signage and electricity/telecommunication poles will be reinstated. The reinstatement of the existing streetscape will mitigate the temporary construction impacts on the ACA, resulting in no residual impacts.

Following the completion of construction, the water pump (CH25) and plinth will be reinstated. The reinstatement of the feature will mitigate the temporary construction impacts on CH25, resulting in no residual effects.

It is not possible to mitigate indirect effects on the structures surrounding the accommodation works. However, the effects will be temporary and following the reinstatement of the greenspace there will be no residual effects.

Prior to the commencement of construction, a programme of archaeological test trenching will be carried out at the location of the proposed turbine hardstands, compound, borrow pit and along the access roads. This work will be carried out under licence to the National Monuments Service of the DHLGH. Dependent on the results of the testing assessment, further mitigation may be required, such as preservation by record or in-situ and/or archaeological monitoring. Any further mitigation will require agreement from the DHLGH.

All inventions that are required along townland boundaries, as part of the construction of the proposed development, will be subject to archaeological monitoring, to include a full record of the sections of townland boundaries that are removed. This work will be carried out under licence to the National Monuments Service of the DHLGH.

All topsoil stripping associated with the proposed development, including site investigation, will be subject to archaeological monitoring. This work will be carried out under licence to the National Monuments Service of the DHLGH. If archaeological remains are identified during the course of these works further mitigation may be required, such as preservation by record or in-situ. Any further mitigation will require agreement from the DHLGH.

13.5.3 Operational Phase (Indirect Effects)

A full assessment of the potential, indirect operational phase effects on the archaeological, architectural and cultural heritage resource has been carried out and is included in Appendix 13.3. This has been carried out utilizing the Zone of Theoretical Visibility (ZTV) mapping and photomontages for the development, produced as part of the Landscape and Visual assessment (Chapter 14). It should be noted that the ZTV is a bare-earth model and does not take account of any potential screening from vegetation or buildings. Where no impact is defined in Appendix 13-3, this is due to the fact that the site is either no longer extant, or the ZTV mapping indicates no turbine visibility from this location. The assessment assumes long term effects based on the proposed operational life of 35 years.

13.5.3.1 Sites of National Significance within 10km of the Proposed Wind Farm

With regards to sites of national significance, no significant negative operational impacts have been identified. One indirect, negative impact has been identified of moderate significance of effect, which relates to the site of a castle (AH52) c. 1.99km east-southeast of Turbine 7.

13.5.3.2 Archaeological Heritage (AH) sites within 5km of the Proposed Wind Farm

Two significant negative operational impacts have been identified in relation to recorded Archaeological Heritage sites due to the proximity of the proposed turbines. These sites consist of two upstanding ringforts (AH13 and 29). AH13 is located 235m west-northwest of Turbine 7; 400m northeast of Turbine 8 and 410m west-southwest of Turbine 6. Turbine 5 is located 810m to the north-northwest. The only view of the monument that will remain unaffected by the turbines, is the view to the northeast.

AH29 occupies an elevated position in the landscape and is 215m southeast of Turbine 4; 440m southwest of Turbine 3 and 485m northwest of Turbine 5, with further turbines located to the north and south. The only view of the monument that will remain unaffected by the turbines, is the view to the southwest.

Moderate negative effects are predicted on a further seven sites (AH 6, 7, 10, 14, 23, 43, 69) due to the proximity of the proposed turbine layout within the landscape.

The remaining operational effects vary between not significant and slight negative, with a number of sites not subject to any effects due to the fact that the Theoretical Zone of Visibility mapping indicates that the turbines will not be visible from certain portions of the study area.

13.5.3.3 Built Heritage (BH) sites within 5km of the Proposed Wind Farm

No significant or moderate negative operational effects are predicted upon Built Heritage sites within the 5km study area.

The remaining operational effects vary between imperceptible and slight negative, with a number of sites not subject to any effects due to the fact that the Theoretical Zone of Visibility mapping indicates that the turbines will not be visible from certain portions of the study area.

13.5.3.4 Designed Landscapes (DL) within 5km of the Proposed Wind Farm

No significant negative operational effects are predicted upon the Designed Landscapes within the 5km study area. Moderate effects are predicted in relation to five Designed Landscapes (DL2, 4, 5, 6, 14) due to the proximity of the proposed turbine layout within the landscape.

The remaining operational effects vary between imperceptible and slight negative.

13.5.3.5 Cultural Heritage (CH) sites within 2km of the Proposed Wind Farm

No significant negative operational effects are predicted upon the Cultural Heritage sites within the 2km study area. Moderate effects are predicted in relation to four Cultural Heritage sites (CH1, 2, 3, 5) due to the proximity of the proposed turbine layout within the landscape.

The remaining operational effects vary between imperceptible and slight negative.

It is not possible to mitigate indirect effects on the archaeological, architectural and cultural heritage resource, due to the nature and scale of the proposed turbines within the landscape. It is noted that effects are not permanent and would be removed following the decommissioning and removal of the turbines.

13.5.4 Decommissioning Phase

The decommissioning of the proposed development will not have any negative effects on the archaeological, architectural or cultural heritage resource as no new ground disturbances will be introduced that may affect buried archaeological remains.

No mitigation is required for the decommissioning phase, as no effects are predicted.

13.5.5 Residual Effects

Following the completion of all construction mitigation measures, there will be no significant residual effects on the archaeological, architectural and cultural heritage resource.

At operation stage there will be residual effects on the archaeological, architectural and cultural heritage resource, due to indirect effects on the setting of a number of recorded sites and structures. Two sites (AH 13 and 29) will be indirectly significantly affected and whilst this is a long-term effect, it is not permanent.

13.5.6 Cumulative Effects

A review of the proposed and permitted, non-wind energy developments within 5km of the proposed project has been carried out in order to identify any potential construction cumulative effects. The study area reflects the 5km study area assessed for the Proposed Wind Farm, in terms of sites subject to statutory protection. Given that any archaeological remains identified within the footprint of the proposed project will be preserved in-situ or by record, no negative cumulative construction effects have been identified.

The following proposed or permitted wind farms, listed in Table 13-11, within 20km of the Proposed Wind Farm have been assessed for potential negative operational cumulative impacts upon the archaeological, architectural and cultural heritage resource.

- Permitted Foyle Extension Wind Farm (c. 18.5km south-southwest)
- Permitted Pinewoods Wind Farm (c. 14.5km northeast)
- Proposed Ballynalacken Wind Farm (c. 5.8km east)
- Permitted Cullenagh Wind Farm (c. 14km northeast)
- Proposed Coolglass Wind Farm (c. 18km northeast)
- Proposed White Hill Wind Farm (c. 20km southeast)
- Proposed Briskalagh Wind Farm (c. 18km south)

No negative cumulative effects have been identified. Whilst the wind farms will be visible in the wider landscape, their presence would not increase the significance of effect that is predicted to occur on any one site (AH, BH, CH, DL) as part of the Seskin Renewables Wind Farm.

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www.excavations.ie – Summary of archaeological excavation from 1970-2025.

www.archaeology.ie – DHLGH website listing all SMR/RMP sites.

www.heritagemaps.ie – The Heritage Council web-based spatial data viewer which focuses on the built, cultural and natural heritage.

www.googleearth.com – Satellite imagery of the proposed project area.

www.bing.com – Satellite imagery of the proposed project area.

www.booksulster.com/library/plnm/placenamesC.php - Contains the text rom Irish Local Names Explained by P.W Joyce (1870).

www.logainm.ie –Placenames Database of Ireland launched by Fiontar agus Scoil na Gaelige and the DHLGH.

APPENDIX 13-1

COUNTY DEVELOPMENT PLANS ARCHAEOLOGICAL AIMS & OBJECTIVES

APPENDIX 13-1

PROTECTION OF CULTURAL HERITAGE

The cultural heritage in Ireland is safeguarded through national and international policy designed to secu the fullest possible extent (Department of Arts, Heritage, Gaeltacht and the Islands 1999, 35). This is und *European Convention on the Protection of the Archaeological Heritage* (Valletta Convention), ratified by

THE ARCHAEOLOGICAL RESOURCE

The *National Monuments Act 1930 to 2014* and relevant provisions of the *National Cultural Institutions Act 1997* are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. A National Monument is described as 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' (National Monuments Act 1930 Section 2). A number of mechanisms under the National Monuments Act are applied to secure the protection of archaeological monuments. These include the Register of Historic Monuments, the Record of Monuments and Places, and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

OWNERSHIP AND GUARDIANSHIP OF NATIONAL MONUMENTS

The Minister may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

REGISTER OF HISTORIC MONUMENTS

Section 5 of the 1987 Act requires the Minister to establish and maintain a Register of Historic Monuments. Historic monuments and archaeological areas present on the register are afforded statutory protection under the 1987 Act. Any interference with sites recorded on the register is illegal without the permission of the Minister. Two months' notice in writing is required prior to any work being undertaken on or in the vicinity of a registered monument. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the Record of Monuments and Places.

PRESERVATION ORDERS AND TEMPORARY PRESERVATION ORDERS

Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order

but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

RECORD OF MONUMENTS AND PLACES

Section 12(1) of the 1994 Act requires the Minister for Arts, Heritage, Gaeltacht and the Islands (now the Minister for the Department of Housing, Local Government and Heritage) to establish and maintain a record of monuments and places where the Minister believes that such monuments exist. The record comprises a list of monuments and relevant places and a map/s showing each monument and relevant place in respect of each county in the state. All sites recorded on the Record of Monuments and Places receive statutory protection under the National Monuments Act 1994. All recorded monuments on the proposed development site are represented on the accompanying maps.

Section 12(3) of the 1994 Act provides that 'where the owner or occupier (other than the Minister for Arts, Heritage, Gaeltacht and the Islands) of a monument or place included in the Record, or any other person, proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice in writing to the Minister of Arts, Heritage, Gaeltacht and the Islands to carry out work and shall not, except in case of urgent necessity and with the consent of the Minister, commence the work until two months after giving of notice'.

Under the National Monuments (Amendment) Act 2004, anyone who demolishes or in any way interferes with a recorded site is liable to a fine not exceeding €3,000 or imprisonment for up to 6 months. On summary conviction and on conviction of indictment, a fine not exceeding €10,000 or imprisonment for up to 5 years is the penalty. In addition, they are liable for costs for the repair of the damage caused.

In addition to this, under the *European Communities (Environmental Impact Assessment) Regulations 1989,* Environmental Impact Statements (EIS) are required for various classes and sizes of development project to assess the impact the proposed development will have on the existing environment, which includes the cultural, archaeological and built heritage resources. These document's recommendations are typically incorporated into the conditions under which the proposed development must proceed and thus offer an additional layer of protection for monuments which have not been listed on the RMP.

THE PLANNING AND DEVELOPMENT ACT 2000

Under planning legislation, each local authority is obliged to draw up a Development Plan setting out their aims and policies with regard to the growth of the area over a five-year period. They cover a range of issues including archaeology and built heritage, setting out their policies and objectives with regard to the protection and enhancement of both. These policies can vary from county to county. The Planning and Development Act 2000 recognises that proper planning and sustainable development includes the protection of the archaeological heritage. Conditions relating to archaeology may be attached to individual planning permissions.

Kilkenny County and City Development Plan 2021-2027

Objectives

9C To protect archaeological sites and monuments (including their setting), underwater archaeology, and archaeological objects, including those that are listed in the Record of Monuments and Places, and in the Urban Archaeological Survey of County Kilkenny or newly discovered sub-surface and underwater archaeological remains.

9D To carry out further research on the eighteen archaeological landscapes as identified in the Preliminary Audit of Archaeological Landscapes in County Kilkenny.

9E To develop an enhanced policy framework for the three priority sites identified in Section 9.3.1.1 above, plus for any additional sites identified through Objective 9D above.

Development Management Requirements:

- To endeavour to preserve in situ all archaeological monuments, whether on land or underwater, listed in the Record of Monuments and Places (RMP), and any newly discovered archaeological sites, features, or objects by requiring that archaeological remains are identified and fully considered at the very earliest stages of the development process and that schemes are designed to avoid impacting on archaeological heritage.
- To require archaeological assessment, surveys, test excavation and/or monitoring for planning applications in areas of archaeological importance if a development proposal is likely to impact upon in-situ archaeological monuments, their setting and archaeological remains.
- To ensure that development within the vicinity of a Recorded Monument is sited and designed appropriately so that it does not seriously detract from the setting of the feature or its zone of archaeological potential. Where upstanding remains of a Recorded Monument exist a visual impact assessment may be required to fully determine the effect of any proposed development.
- To require the retention of surviving medieval plots and street patterns and to facilitate the recording of evidence of ancient boundaries, layouts etc. in the course of development.
- To safeguard the importance of significant archaeological landscapes from developments that would unduly sever or disrupt the relationship, connectivity and/or inter-visibility between sites.

Laois County Development Plan 2021-2027

Policy Objectives for Archaeological Heritage

AH 1 Manage development in a manner that protects and conserves the integrity and character of archaeological heritage of the county which avoids adverse impacts on sites, monuments, settings, features or objects of significant historical or archaeological interest and secure the preservation in-situ or by record of all sites and features of historical and archaeological interest.

AH 2 Support the preservation or conservation of historically significant street patterns, building lines and plot widths in its towns and villages as well as the preservation of features such as town walls, historic revetments, and public realm features such as granite kerbing, historic drinking fountains, cobbles, vent pipes whether or not they benefit from protection in their own right.

AH 3 Protect the intrinsic value, character, integrity and settings of monuments and places in the Record of Monuments and Places (RMPs) and any forthcoming statutory register and protect Zones of Archaeological Potential against inappropriate development.

AH 4 In areas of archaeological potential, where groundworks are proposed, ensure that all works are undertaken to the highest standard and the resultant information made publicly available. Developers will be required to have regard to Archaeology and Development: Guidelines for Good Practice for Developers (ICOMOS, 2000) in planning and executing development in sensitive areas. The Council favours the preservation in-situ of archaeological remains, where areas of archaeological potential are located in town centres or villages, preservation of archaeological remains by record will be considered.

AH 5 Encourage, where practicable, the provision of public access and signage to sites identified in the Record of Monuments and Places under the direct ownership, guardianship or control of the Council and/or the State.

AH 6 Work closely with the relevant State bodies to deliver the conservation objectives of the Rock of Dunamase and redevelopment of Fort Protector to secure funding for the preservation and development of these culturally 300 Policy Objectives for Archaeological Heritage important sites.

AH 7 Require visual impact statements for developments within the area around the Rock of Dunamaise in order to assess the potential impacts of development in the area.

AH 8 Work with stakeholders including the OPW, the Heritage Council, the Arts Council, local communities, Bord Failte and businesses to support the development of heritage and cultural tourism in County Laois .

AH 9 Maximise the potential of Dunrally Viking Fort, as a heritage/cultural and tourism site.

AH 10 Protect where appropriate industrial heritage structures or elements of significance identified in the Laois Industrial Archaeology Survey by adding them to the Record of Protected Structures during the lifetime of the Development Plan.

APPENDIX 13-2

LEGISLATION PROTECTING ARCHITECTURAL RESOURCE

APPENDIX 13-2

The main laws protecting the built heritage are the Architectural Heritage (National Inventory) and National Monuments (Miscellaneous Provisions) Act 1999 and the Local Government (Planning and Development) Acts 1963–1999, which has now been superseded by the Planning and Development Act, 2000. The Architectural Heritage Act requires the Minister to establish a survey to identify, record and assess the architectural heritage of the country. The background to this legislation derives from Article 2 of the 1985 Convention for the Protection of Architectural Heritage (Granada Convention). This states that:

For the purpose of precise identification of the monuments, groups of structures and sites to be protected, each member state will undertake to maintain inventories of that architectural heritage.

The National Inventory of Architectural Heritage (NIAH) was established in 1990 to fulfil Ireland's obligation under the Granada Convention, through the establishment and maintenance of a central record, documenting and evaluating the architecture of Ireland (NIAH Handbook 2005:2). As inclusion in the inventory does not provide statutory protection, the survey information is used in conjunction with the Architectural Heritage Protection Guidelines for Planning Authorities to advise local authorities on compilation of a Record of Protected Structures as required by the Planning and Development Act, 2000.

PROTECTION UNDER THE RECORD OF PROTECTED STRUCTURES AND COUNTY DEVELOPMENT PLAN

Structures of architectural, cultural, social, scientific, historical, technical or archaeological interest can be protected under the Planning and Development Act, 2000, where the conditions relating to the protection of the architectural heritage are set out in Part IV of the act. This act superseded the Local Government (Planning and Development) Act, 1999 and came into force on 1st January 2000.

The act provides for the inclusion of Protected Structures into the planning authorities' development plans and sets out statutory regulations regarding works affecting such structures. Under new legislation, no distinction is made between buildings formerly classified under development plans as List 1 and List 2. Such buildings are now all regarded as 'Protected Structures' and enjoy equal statutory protection. Under the act the entire structure is protected, including a structure's interior, exterior, attendant grounds and also any structures within the attendant grounds.

The act defines a Protected Structure as (a) a structure, or (b) a specified part of a structure which is included in a Record of Protected Structures (RPS), and, where that record so indicates, includes any specified feature which is in the attendant grounds of the structure, and which would not otherwise be included in this definition. Protection of the structure, or part thereof, includes conservation, preservation, and improvement compatible with maintaining its character and interest. Part IV of the act deals with architectural heritage, and Section 57 deals specifically with works affecting the character of Protected Structures or proposed Protected Structures and states that no works should materially affect the character of the structure or any element of the structure that contributes to its special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. The act does not provide specific criteria for assigning a special interest to a structure. However, the National Inventory of Architectural Heritage (NIAH) offers guidelines to its field workers as to how to designate a building with a special interest, which are not mutually exclusive. This offers guidance by example rather than by definition:

ARCHAEOLOGICAL

It is to be noted that the NIAH is biased towards post-1700 structures. Structures that have archaeological features may be recorded, providing the archaeological features are incorporated within post-1700 elements. Industrial fabric is considered to have technical significance and should only be attributed archaeological significance if the structure has pre-1700 features.

ARCHITECTURAL

A structure may be considered of special architectural interest under the following criteria:

- Good quality or well executed architectural design
- The work of a known and distinguished architect, engineer, designer, craftsman
- A structure that makes a positive contribution to a setting, such as a streetscape or rural setting
- Modest or vernacular structures may be considered to be of architectural interest, as they are part of the history of the built heritage of Ireland.
- Well-designed decorative features, externally and/or internally

HISTORICAL

A structure may be considered of special historical interest under the following criteria:

- A significant historical event associated with the structure
- An association with a significant historical figure
- Has a known interesting and/or unusual change of use, e.g. a former workhouse now in use as a hotel
- A memorial to a historical event.

TECHNICAL

A structure may be considered of special technical interest under the following criteria:

- Incorporates building materials of particular interest, i.e. the materials or the technology used for construction
- It is the work of a known or distinguished engineer
- Incorporates innovative engineering design, e.g. bridges, canals or mill weirs
- A structure which has an architectural interest may also merit a technical interest due to the structural techniques used in its construction, e.g. a curvilinear glasshouse, early use of concrete, cast-iron prefabrication.
- Mechanical fixtures relating to a structure may be considered of technical significance.

CULTURAL

A structure may be considered of special cultural interest under the following criteria:

- An association with a known fictitious character or event, e.g. Sandycove Martello Tower, which featured in Ulysses.
- Other structure that illustrates the development of society, such as early schoolhouses, swimming baths or printworks.

SCIENTIFIC

A structure may be considered of special scientific interest under the following criteria:

- A structure or place which is considered to be an extraordinary or pioneering scientific or technical achievement in the Irish context, e.g. Mizen Head Bridge, Birr Telescope.

SOCIAL

A structure may be considered of special social interest under the following criteria:

- A focal point of spiritual, political, national or other cultural sentiment to a group of people, e.g. a place of worship, a meeting point, assembly rooms.
- Developed or constructed by a community or organisation, e.g. the construction of the railways or the building of a church through the patronage of the local community
- Illustrates a particular lifestyle, philosophy, or social condition of the past, e.g. the hierarchical accommodation in a country house, philanthropic housing, vernacular structures.

ARTISTIC

A structure may be considered of special artistic interest under the following criteria:

- Work of a skilled craftsman or artist, e.g. plasterwork, wrought-iron work, carved elements or details, stained glass, stations of the cross.
- Well-designed mass-produced structures or elements may also be considered of artistic interest.

(From the NIAH Handbook 2003 & 2005 pages 15–20)

The Local Authority has the power to order conservation, and restoration works to be undertaken by the owner of the protected structure if it considers the building to need repair. Similarly, an owner or developer must make a written request to the Local Authority to carry out any works on a protected structure and its environs, which will be reviewed within three months of application. Failure to do so may result in prosecution.

Kilkenny County and City Development Plan 2021-2027

Objectives

9F To provide assistance to owners of protected structures in undertaking essential repairs and maintenance by the provision of relevant information.

9G To respond to the Ministerial recommendation to include in the RPS, structures which have been identified as being of regional, national or international significance in the National Inventory of Architectural Heritage survey and to consider for inclusion those rated as being of local significance.

9H To continue to review the Record of Protected Structures and add or delete structures as appropriate.

9I To ensure all digital mapping for the Record of Protected Structures is up to date and current, and readily accessible to the public.

Development Management Requirements:

- To have regard to the Architectural Heritage Protection Guidelines28 when assessing proposals for development affecting a protected structure and buildings listed in the NIAH.
- To encourage the sympathetic retention, reuse and rehabilitation of protected structures and their setting, while ensuring the involvement of suitably qualified professionals
- To ensure proposed service upgrades undertake an initial assessment of current services, to ensure the internal environment and fabric is not impacted on by such works. Energy assessments and Architectural Heritage Impact Assessments may be required where energy and service upgrades are proposed.
- To ensure proposed development within the curtilage or attendant grounds of a protected structure respects the protected structure and its setting,
- To require an architectural impact assessment where appropriate for developments within the grounds of country house estates which are Protected Structures.
- To promote principles of best practice in conservation in terms of use of appropriate materials, repair techniques, and thermal upgrades by adhering to the guidelines as set out in Department of Housing, Local Government and Heritage's Advice Series publications
- To promote best conservation principles and practice when assessing proposals for Kilkenny's architectural heritage
- To ensure that energy upgrades for buildings constructed from traditional materials are respectful of architectural features, form, and environmental requirements necessary to maintain breathability in the structure.

Laois County Development Plan 2021-2027

Policy Objectives for Protected Structures

PS 1 Consult with the Department of Environment, Heritage and Local Government in considering planning applications that may affect Protected Structures or Architectural Conservation Areas (ACA). The Council will have regard to comments made by the Department and relevant guidelines such as the Architectural Heritage Protection: Guidelines for Planning Authorities (DAHG, 2011) and other pertinent guidelines regarding energy ratings for Protected Structures.

PS 2 Protect and conserve buildings, structures and sites contained in the Record of Protected Structures in accordance with 'Architectural Heritage Protection Guidelines for Planning Authorities' 2004 and ensure the effective promotion of the Architectural Heritage provisions of Planning and Development Act 2000 (as amended) and therefore the protection of Laois's built heritage, including Architectural Conservation Areas (ACAs) and Protected Structures.

PS 3 Any development, modification, alteration, or extension affecting a Protected Structure must be prepared by suitably qualified persons and Accompanied by appropriate documentation as outlined in the Architectural Heritage Protection Guidelines for Planning Authorities [DAHG, 2011] to enable a proper assessment of the proposed works and their impact on the structure or area and be carried out to best practice conservation standards. Its setting will be considered against the following criteria, and whether it is: a) Sensitively sited and designed; b) Compatible with the special character; c) Views of principal elevations of the protected structures are not obscured or negatively impacted; d) Of a premium quality of design and appropriate in terms of the proposed scale, mass, height, density, layout, and material so that the integrity of the structure and its curtilage is preserved and enhanced. Where appropriate, the Protected Structure status is used as a stimulus to the imaginative and considered design of new elements.

PS 4 Where the restoration or refurbishment of a Protected Structure or a key Architectural Conservation Area building that is in poor or fair condition is proposed and is for a purpose compatible with the character of the building, the relaxation of development management standards on unit sizes, amenity space or parking will be considered by the Council.

PS 5 Refuse planning permission for the demolition of any protected structure unless the Council is satisfied that exceptional circumstances exist. The demolition of a protected structure with the retention of its façade will likewise not generally be permitted.

PS 6 Favourably consider the change of use of any structure included on the Record of Protected Structures provided such a change of use does not adversely impact on its intrinsic character. In certain cases, the Planning Authority may relax site zoning restrictions / development standards in order to secure the preservation and restoration of the structure.

PS 7 Review and update the Record of Protected Structures on an on-going basis and to make additions and deletions as appropriate.

PS 8 Integrate climate-change adaptation measures into all heritage works and maintenance plans by demonstrating green ways of working in historic buildings, ensuring that the carbon footprint of adaptation measures is considered.

PS 9 Promote the repair and reuse of existing building stock, including heritage buildings, as a means of avoiding unnecessary carbon outlays with new build.

PS 10 Support proposals to improve the thermal performance of historic buildings with renewable energy technologies. Such proposals shall be sensitive to traditional methods of construction to ensure that the proposed works are appropriate and do not cause damage to the structure, require the removal of historic fabric such as original windows, doors and floors, or have a detrimental visual impact.

Policy Objectives for ACA

ACA 1 Ensure that any development, modifications, alterations, or extensions within an ACA are sited and designed appropriately, and are not detrimental to the character of the structure or to its setting or the general character of the ACA and are in keeping with any Architectural Conservation Area Statement of Character Guidance Documents prepared for the relevant ACA.

ACA 2 Demolition of buildings or substantial parts of structures in cases where those structures make a positive contribution to the special character of the ACA will not be acceptable in principle. Only in exceptional circumstances, where the redevelopment or replacement structures would produce substantial benefits for the community which would decisively outweigh the loss resulting from demolition, would demolition of this nature be considered.

ACA 3 Investigate the designation of further ACAs at appropriate locations throughout and prepare a character statement appraisal and area specific policy for each ACA to include Stradbally, Mountmellick Mountrath and Portarlington, (the latter in collaboration within Offaly County Council).

Policy Objectives for Vernacular Structures

VS 1 Recognise the importance of the contribution of vernacular architecture which may not be protected to the promote where feasible the protection, retention and appropriate revitalisation and use of the vernacular built heritage, including structures that contribute to landscape and streetscape character and discourage the demolition of these structures.

VS 2 Resist the demolition of vernacular architecture, in particular thatched cottages and farmhouses and to encourage their sensitive reuse having regard to the intrinsic character of the structure.

VS 3 Ensure that both new build, and extensions to vernacular buildings are of an appropriate design and do not detract from the buildings character.

VS 4 Seek the repair and retention of traditional tier and/or rendered shop fronts and pub fronts, including those that may not be protected structures.

VS 5 Develop and publish guidelines on the conservation and appropriate reuse of Local Authority Cottages and similar vernacular structures.

VS 6 Have regard, where appropriate, to guidance in the DAHG Guidelines and conservation best practice in assessing proposed interventions and planning applications relating to vernacular structures, traditional farmhouses, their curtilage, out buildings and settings.

APPENDIX 13-3

ASSESSMENT OF OPERATIONAL PHASE IMPACTS ON THE ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE RESOURCE

Appendix 13-3 Assessment of Operational Phase Impacts on the Archaeological, Architectural and Cultural Heritage Resource

Archaeological Heritage

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
-	KK009-037001; KK009-037003; KK009-037004; KK009-038001; KK009-038002) PO 03/1992	Balleen Little	A tower house, bawn, church and deserted settlement	T8	7.26km southwest	Very high	No impact	N/a	N/a
-	KK013-018001 Nat. Mon. No. 282	Ballylarkin Upper	Church	T8	9.76km southwest	Very high	Indirect, negative	Very low	Slight negative
AH1	KK001-005001	Castlemarket	Church	T1	4.44km northeast	High	Indirect, negative	Very low	Not significant
	KK001-005002	Castlemarket	Graveyard	T1	4.43km northeast	High			
	KK001-005003	Castlemarket	Memorial stone	T1	4.45km northeast	High			
AH2	KK001-006001	Castlemarket	Castle - unclassified	T1	4.86km northeast	High	No impact	N/a	N/a
	KK001-006002	Castlemarket	Castle - motte	T1	4.86km northeast	High			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK001-006003	Castlemarket	Settlement deserted - medieval	T1	4.85km northeast	High			
AH3	KK001-007	Castlemarket	Bridge	T1	4.95km northeast	High	No impact	N/a	N/a
AH4	KK004-001	Ballynaslee	Enclosure	T3	941m east-northeast	High	Indirect, negative	Very low	Not significant
AH5	KK004-002	Ballynaslee	Church	T3	1.07km east-northeast	High	Indirect, negative	Low	Slight
	KK004-002001	Ballynaslee	Graveyard	T3	1.07km east-northeast	High			
AH6	KK004-003	Ballynaslee,Seskin (Galmoy By.)	Enclosure	T5	275m south	High	Indirect, negative	Medium	Moderate
AH7	KK004-004	Ballynaslee	Enclosure	T6	444m east	High	Indirect, negative	Medium	Moderate
AH8	KK004-005001	Ballynaslee	Megalithic structure	T7	385m north-northwest	High	Indirect, negative	Low	Slight
	KK004-005002	Ballynaslee	Megalithic structure	T7	385m north-northwest	High			
AH9	KK004-006	Ballynaslee	Enclosure	T7	443m north	High	Indirect, negative	Low	Slight
AH10	KK004-007	Ballynaslee	Ringfort - rath	T7	579m northeast	High	Indirect, negative	Medium	Moderate

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH11	KK004-008001	Ballyconra	Church	T7	1.15km northeast	High	Indirect, negative	Low	Slight
	KK004-008002	Ballyconra	Graveyard	T7	1.14km northeast	High			
AH12	KK004-009	Seskin (Galmoy By.)	Redundant record	T8	853m west	Very low	Indirect, negative	Low	Slight
	LA035-049	Archerstown	Enclosure	T8	853m west	High			
	LA035-049001	Archerstown	Mass-rock	T6	797m west	High			
AH13	KK004-010	Seskin (Galmoy By.)	Ringfort - rath	T7	262m west-northwest	High	Indirect, negative	High	Significant
AH14	KK004-011	Ballyconra	Ringfort - rath	T7	630m east	High	Indirect, negative	Medium	Moderate
AH15	KK004-012	Ballyconra	Ring-ditch	T7	1.27km east	High	Indirect, negative	Very low	Not significant
AH16	KK004-013001	Ballyconra	Ring-ditch	T7	1.55km east	High	Indirect, negative	Very low	Not significant
	KK004-013002	Ballyconra	Ring-ditch	T7	1.56km east	High			
	KK004-013003	Ballyconra	Field system	T7	1.45km east	High			
	KK004-013004	Ballyconra	Ring-ditch	T7	1.48km east	High			
	KK004-013005	Ballyconra	Redundant record	T7	1.47km east	Very low			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK004-013006	Ballyconra	Redundant record	T7	1.47km east	Very low			
AH17	KK004-014	Ballyconra	Enclosure	T7	1.7km east	High	Indirect, negative	Very low	Not significant
AH18	KK004-015	Tinnaslatty (Galmoy By.)	Redundant record	T8	2.52km west-southwest	Very low	No impact	N/a	N/a
AH19	KK004-016	Lisdowney	Enclosure	T8	2.24km southwest	High	Indirect, negative	Very low	Imperceptible
AH20	KK004-017	Seskin North	Ringfort - rath	T8	898m southwest	High	Indirect, negative	Very low	Imperceptible
AH21	KK004-018	Seskin North	Enclosure	T8	837m southwest	High	Indirect, negative	Low	Slight
AH22	KK004-019001	Seskin North	Castle - unclassified	T8	488m southwest	High	Indirect, negative	Low	Slight
	KK004-019002	Seskin North	Earthwork	T8	527m southwest	High			
AH23	KK004-020	Seskin North	Ringfort - rath	T7	364m southwest	High	Indirect, negative	Medium	Moderate
AH24	KK004-021	Ballyconra	Architectural fragment	T7	1.63km southeast	High	No impact	N/a	N/a
AH25	KK004-022	Ballyconra	Enclosure	T8	1.48km south	High	Indirect, negative	Low	Slight
	KK004-047	Ballyconra	Enclosure	T7	1.53km south	High			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK004-048	Ballyconra	Enclosure	T7	1.56km south	High			
AH26	KK004-031	Tinnaslatty (Galmoy By.)	Castle - unclassified	T8	3.1km west	High	Indirect, negative	Very low	Not significant
AH27	KK004-034	Ballynaslee	Ringfort - rath	T5	446m southeast	High	Indirect, negative	Low	Slight
AH28	KK004-035	Tinnaslatty (Galmoy By.)	Moated site	T8	2.98km west-southwest	High	Indirect, negative	Very low	Not significant
AH29	KK004-036	Seskin (Galmoy By.)	Ringfort - rath	T4	240m southeast	High	Indirect, negative	High	Significant
AH30	KK004-037	Seskin (Galmoy By.)	Burnt spread	T6	779m west	High	Indirect, negative	Low	Slight
AH31	KK004-038	Seskin North	Redundant record	T8	1.04km southwest	High	No impact	N/a	N/a
AH32	KK004-040	Ballyconra	Ring-ditch	T7	1.04km east	High	Indirect, negative	Very low	Not significant
AH33	KK004-041	Ballynaslee	Enclosure	T1	1.03km east	High	Indirect, negative	Very low	Not significant
AH34	KK004-042	Seskin North	House - 17th century	T8	868m southwest	High	Indirect, negative	Low	Slight
AH35	KK004-043	Ballyconra	Enclosure	T7	1.29km south	High	Indirect, negative	Low	Slight
	KK004-045	Ballyconra	Enclosure	T7	1.35km south	High			
AH36	KK004-044	Ballyconra	Enclosure	T7	1.14km south	High		Low	Slight

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK004-052----	Ballyconra	Enclosure	T7	1.11km south	High	Indirect, negative		
	KK004-053	Ballyconra	Enclosure	T7	1.12km south	High			
	KK004-056	Ballyconra	Enclosure	T7	1.18km south	High			
	KK004-055	Ballyconra	Enclosure	T7	1.2km south	High			
AH37	KK004-046-	Ballyconra	Settlement cluster	T7	1.48km south	High	Indirect, negative	Low	Slight
	KK004-054	Ballyconra	Enclosure	T7	1.39km south	High			
AH38	KK004-049	Ballyconra	Enclosure	T8	1.32km south	High	Indirect, negative	Low	Slight
AH39	KK004-050	Ballyconra	Enclosure	T7	1.72km south	High	Indirect, negative	Low	Slight
AH40	KK004-051	Ballyconra	Enclosure	T7	1.87km south	High	Indirect, negative	Low	Slight
AH41	KK004-057	Ballyconra	Enclosure	T7	1.15km east	High	Indirect, negative	Very low	Not significant
AH42	KK004-058	Ballynaslee	Enclosure	T3	1.09km east-northeast	High	Indirect, negative	Very low	Not significant
AH43	KK004-059	Seskin (Galmoy By.)	Enclosure	T8	289m west	High	Indirect, negative	Medium	Moderate
AH44	KK005-001	Ballyoskill	Ringfort - rath	T1	3.67km northeast	High	Indirect, negative	Low	Slight

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH45	KK005-002	Ballyoskill	Castle - ringwork	T3	4.61km east	High	Indirect, negative	Low	Slight
AH46	KK005-011001	Gorteenara	Church	T7	2.77km northeast	High	Indirect, negative	Low	Slight
	KK005-011002	Gorteenara	Graveyard	T7	2.76km northeast	High			
	KK005-011003	Gorteenara	Ecclesiastical enclosure	T7	2.75km northeast	High			
AH47	KK005-012001	Tinnalintan	Ritual site - holy well	T7	2.89km northeast	High	Indirect, negative	Low	Slight
	KK005-012002	Tinnalintan	Enclosure	T7	2.89km northeast	High			
AH48	KK005-013	Coole (Fassadinin By.)	Enclosure	T7	1.93km east-northeast	High	Indirect, negative	Very low	Not significant
AH49	KK005-014	Tinnalintan	Ringfort - rath	T7	3.05km east	High	Indirect, negative	Low	Slight
AH50	KK005-015	Tinnalintan	Ringfort - rath	T7	3.13km east	High	Indirect, negative	Low	Slight
AH51	KK005-016	Ballymartin (Fassadinin By.)	Redundant record	T7	4.11km east-northeast	Very low	No impact	N/a	N/a
AH52	KK005-023001 Pres. Order 5/1983	Moatpark	Castle - motte	T7	1.99km east-southeast	Very high	Indirect, negative	Low	Moderate

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK005-023002 Pres. Order 5/1983	Moatpark	Castle - unclassified	T7	1.99km east-southeast	High			
AH53	KK005-024	Rathduff (Fassadinin By.)	Barrow - mound barrow	T7	2.81km southeast	High	Indirect, negative	Low	Slight
AH54	KK005-025001	Garrannaguilly	Enclosure	T7	3.67km east-southeast	High	Indirect, negative	Very low	Not significant
	KK005-025002	Garrannaguilly	Enclosure	T7	3.67km east-southeast	High			
	KK005-093	Garrannaguilly	Redundant record	T7	3.67km east-southeast	High			
AH55	KK005-060001	Sraleagh	Church	T7	3.49km east-southeast	High	Indirect negative	Low	Slight
	KK005-060002	Sraleagh	Graveyard	T7	3.49km east-southeast	High			
AH56	KK005-061	Sraleagh	Enclosure	T7	3.28km east-southeast	High	Indirect, negative	Very low	Not significant
AH57	KK005-063001	Finnan	Church	T7	4.32km southeast	High	Indirect negative	Low	Slight
	KK005-06300	Finnan	Redundant record	T7	4.32km southeast	Very low			
	KK005-063003-	Finnan	Graveyard	T7	4.32km southeast	High			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK005-063004	Finnan	Ritual site - holy well	T7	4.34km southeast	High			
AH58	KK005-080	Ballyoskill	Castle - unclassified	T7	4.49km northeast	High	Indirect negative	Low	Slight
AH59	KK005-083	Nicholastown (Kilkea and Moone By.)	Enclosure	T3	3.04km east-northeast	High	Indirect negative	Low	Slight
AH60	KK005-084	Ballyragget	Enclosure	T7	3.91km east-southeast	High	Indirect, negative	Very low	Not significant
	KK005-092	Ballyragget	Enclosure	T7	3.94km southeast	High			
AH61	KK005-088	Tinnalintan	Enclosure	T7	3.01km east	High	Indirect, negative	Very low	Not significant
AH62	KK005-089	Ballyragget	Concentric enclosure	T7	3.51km east-southeast	High	Indirect, negative	Very low	Not significant
AH63	KK005-090	Ballyragget	Enclosure	T7	3.39km east-southeast	High	Indirect, negative	Very low	Not significant
AH64	KK005-091	Ballyragget	Enclosure	T7	3.49km southeast	High	Indirect, negative	Very low	Not significant
AH65	KK005-094	Rathduff (Fassadinin By.)	Enclosure	T7	2.45km east-southeast	High	Indirect, negative	Very low	Not significant
	KK005-095	Rathduff (Fassadinin By.)	Field system	T7	2.51km east-southeast	High			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH66	KK005-096	Rathduff (Fassadinin By.)	Enclosure	T7	2.63km east-southeast	High	Indirect, negative	Very low	Not significant
AH67	KK009-011001	Lisdowney	Enclosure	T8	4.58km southwest	High	No impact	N/a	N/a
	KK009-011002	Lisdowney	Linear earthwork	T8	4.64km southwest	High			
AH68	KK009-012	Seskin South	Redundant record	T8	1.99km south-southwest	Very low	Indirect, negative	Low	Slight
	KK009-012001	Seskin South	Church	T8	1.99km south-southwest	High			
	KK009-012002	Seskin South	Graveyard	T8	1.99km south-southwest	High			
	KK009-012003	Seskin South	Enclosure	T8	1.99km south-southwest	High			
AH69	KK009-013	Ballyconra	Redundant record	T7	1.77km south	Very low	Indirect, negative	Low	Moderate
	KK009-013001	Ballyconra	Church	T7	1.79km south	High			
	KK009-013002	Ballyconra	Graveyard	T7	1.77km south	High			
	KK009-013003	Ballyconra	Redundant record	T7	1.77km south	Very low			
	KK009-013004	Ballyconra	Ritual site - holy well	T7	1.85km south	High			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK009-013005	Ballyconra	Earthwork	T7	1.7km south	High			
	KK009-013006	Ballyconra	Wall monument	T7	1.79km south	High			
	KK009-013007	Ballyconra	Graveslab	T7	1.79km south	High			
	KK009-013008	Ballyconra	Road - hollow-way	T7	1.9km south	High			
	KK009-013009	Ballyconra	Building	T7	1.77km south	High			
AH70	KK009-014	Parksgrove	Ringfort - rath	T7	2.35km southeast	High	Indirect, negative	Very low	Not significant
AH71	KK009-015	Parksgrove	Ring-ditch	T7	2.47km southeast	High	Indirect, negative	Very low	Not significant
AH72	KK009-023	Ballyring Upper	Enclosure	T8	4.91km southwest	High	Indirect, negative	Very low	Imperceptible
AH73	KK009-024	Grange (Fassadinin By.)	Enclosure	T8	3.24km south	High	No impact	N/a	N/a
AH74	KK009-025	Parksgrove	Concentric enclosure	T7	3.43km south-southeast	High	Indirect, negative	Very low	Not significant
AH75	KK009-026	Grange (Fassadinin By.)	Enclosure	T7	3.59km south-southeast	High	Indirect, negative	Very low	Not significant
AH76	KK009-027	Grange (Fassadinin By.)	Ringfort - rath	T7	3.96km south-southeast	High	Indirect, negative	Very low	Not significant
AH77	KK009-028	Grange (Fassadinin By.)	Redundant record	T7	4.4km south-southeast	Very low	Indirect, negative	Very low	Not significant

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK009-028001	Grange (Fassadinin By.)	Church	T7	4.4km south-southeast	High			
	KK009-028002	Grange (Fassadinin By.)	Graveyard	T7	4.4km south-southeast	High			
AH78	KK009-046	Sweethill	Earthwork	T8	4.88km south	High	Indirect, negative	Very low	Not significant
AH79	KK009-069001	Lisdowney	Castle - unclassified	T8	1.99km southwest	High	Indirect, negative	Low	Slight
	KK009-069002	Lisdowney	House - 16th/17th century	T8	1.99km southwest	High			
AH80	KK009-070	Lisdowney	Ringfort - unclassified	T8	1.89km southwest	High	Indirect, negative	Low	Slight
	KK009-070001	Lisdowney	Moated site	T8	1.88km southwest	High			
AH81	KK009-087	Lisdowney	Fulacht fia	T8	2.58km southwest	High	Indirect, negative	Very low	Not significant
AH82	KK009-089	Parksgrove	Fulacht fia	T7	3.44km south-southeast	High	Indirect, negative	Very low	Not significant
AH83	KK009-090	Grange (Fassadinin By.)	House - 18th/19th century	T7	4.49km south-southeast	High	Indirect, negative	Very low	Not significant
AH84	KK009-091	Parksgrove	Enclosure	T7	3.38km south-southeast	High	Indirect, negative	Very low	Not significant

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH85	KK009-094	Grange (Fassadinin By.)	Fulacht fia	T7	3.52km south-southeast	Very low	No impact	N/a	N/a
AH86	KK009-095	Parksgrove	Burnt mound (excavated)	T7	2.69km south-southeast	Very low	No impact	N/a	N/a
	KK009-096	Parksgrove	Metalworking site (excavated)	T7	2.69km south-southeast	Very low			
AH87	KK009-097	Parksgrove	Fulacht fia	T7	2.87km southeast	Very low	No impact	N/a	N/a
AH88	KK009-098	Parksgrove	Fulacht fia	T7	3.11km south-southeast	Very low	No impact	N/a	N/a
AH89	KK009-100	Grange (Fassadinin By.)	Enclosure	T7	4.85km south-southeast	High	Indirect, negative	Very low	Not significant
AH90	KK009-101	Grange (Fassadinin By.)	Enclosure	T7	4.81km south-southeast	High	Indirect, negative	Very low	Not significant
AH91	KK009-102	Grange (Fassadinin By.)	Ring-ditch	T7	4.83km south-southeast	High	Indirect, negative	Very low	Not significant
AH92	KK009-103	Grange (Fassadinin By.)	Enclosure - large enclosure	T8	3.47km south	High	Indirect, negative	Very low	Not significant
AH93	KK009-115	Grange (Fassadinin By.)	Redundant record	T8	4.29km south	Very low	Indirect, negative	Very low	Not significant
	KK009-118	Grange (Fassadinin By.)	Redundant record	T8	4.29km south	Very low			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH94	KK009-122	Lisdowney	Cross-slab (present location)	T8	2.03km south-southwest	High	No impact	N/a	N/a
	KK009-123	Lisdowney	Cross-slab (present location)	T8	2.03km south-southwest	High			
AH95	KK010-001	Ballyragget	Historic town	T7	3.16km southeast	High	Indirect, negative	Very low	Not significant
	KK010-001001	Ballyragget	Castle - tower house	T7	3.25km southeast	High			
	KK010-001002	Ballyragget	Bawn	T7	3.26km southeast	High			
	KK010-001003	Ballyragget	Enclosure	T7	3.3km southeast	High			
AH96	KK010-002001	Ballyragget	Ring-ditch	T7	3.81km southeast	High	Indirect, negative	Very low	Not significant
	KK010-002002	Ballyragget	Ring-ditch	T7	3.82km southeast	High			
	KK010-002003	Ballyragget	Ring-ditch	T7	3.79km southeast	High			
	KK010-002004	Ballyragget	Enclosure	T7	3.86km southeast	High			
	KK010-002005	Ballyragget	Ring-ditch	T7	3.85km southeast	High			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK010-002006	Ballyragget	Road - road/trackway	T7	3.79km southeast	High			
AH97	KK010-003	Ballyragget	Ringfort - unclassified	T7	3.71km southeast	High	Indirect, negative	Low	Slight
AH98	KK010-004	Ballyragget	Concentric enclosure	T7	4.02km southeast	High	Indirect, negative	Very low	Not significant
AH99	KK010-005001	Donaghmore (Fassadinin By.)	Church	T7	4.18km southeast	High	Indirect, negative	Very low	Not significant
	KK010-005002	Donaghmore (Fassadinin By.)	Graveyard	T7	4.18km southeast	High			
	KK010-005003	Donaghmore (Fassadinin By.)	Tomb - chest tomb	T7	4.19km southeast	High			
	KK010-005004	Donaghmore (Fassadinin By.)	Headstone	T7	4.18km southeast	High			
	KK010-005005	Donaghmore (Fassadinin By.)	Headstone	T7	4.18km southeast	High			
	KK010-005006	Donaghmore (Fassadinin By.)	Tomb - chest tomb	T7	4.2km southeast	High			
AH100	KK010-006	Donaghmore (Fassadinin By.)	Ringfort - unclassified	T7	4.78km southeast	High	Indirect, negative	Very low	Not significant
AH101	KK010-027	Oldtown (Fassadinin By.)	Enclosure - large enclosure	T7	4.45km southeast	High	Indirect, negative	Very low	Not significant

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH102	KK010-029	Oldtown (Fassadinin By.)	Enclosure	T7	4.72km southeast	High	Indirect, negative	Very low	Not significant
	KK010-161	Donaghmore (Fassadinin By.)	Ring-ditch	T7	4.68km southeast	High			
AH103	KK010-122	Parksgrove	Water mill - unclassified	T7	2.92km southeast	High	Indirect, negative	Very low	Not significant
	KK010-166----	Oldtown (Knocktopher By.)	Ring-ditch	T7	4.86km south-southeast	High			
AH104	KK010-139001	Ballyragget,Parksgrove	Ford	T7	2.96km southeast	High	Indirect, negative	Very low	Not significant
	KK010-139002	Ballyragget,Parksgrove	Bridge	T7	2.96km southeast	High			
	KK010-167	Oldtown (Knocktopher By.)	Ring-ditch	T7	4.7km south-southeast	High			
	KK010-168	Oldtown (Knocktopher By.)	Ring-ditch	T7	4.68km south-southeast	High			
	KK010-169	Oldtown (Knocktopher By.)	Field system	T7	4.69km south-southeast	High			
AH105	KK010-171	Oldtown (Knocktopher By.)	Enclosure	T7	4.59km south-southeast	High	Indirect, negative	Very low	Not significant

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	KK010-159	Donaghmore (Fassadinin By.)	Enclosure	T7	4.77km southeast	High			
AH106	KK010-172	Parksgrove	Ring-ditch	T7	3.56km southeast	High	Indirect, negative	Very low	Not significant
	KK010-160	Donaghmore (Fassadinin By.)	Ring-ditch	T7	4.66km southeast	High	Indirect, negative		
	KK010-176	Ballyragget	Ring-ditch	T7	3.6km southeast	High			
AH107	KK010-177	Ballyragget	Ring-ditch	T7	3.65km southeast	High	Indirect, negative	Very low	Not significant
	KK010-178	Ballyragget	Ring-ditch	T7	3.69km southeast	High	Indirect, negative		
AH108	KK010-183	Donaghmore (Fassadinin By.)	Ring-ditch	T7	4.56km southeast	High	Indirect, negative	Very low	Not significant
AH109	KK010-189	Donaghmore (Fassadinin By.)	Enclosure	T7	4.86km southeast	High	Indirect, negative	Very low	Not significant
AH110	KK010-193	Oldtown (Fassadinin By.)	Enclosure	T7	4.35km south-southeast	High	Indirect, negative	Very low	Not significant
AH111	KK010-194	Oldtown (Fassadinin By.)	Enclosure	T7	4.48km south-southeast	High	Indirect, negative	Very low	Not significant
AH112	KK010-195	Oldtown (Fassadinin By.)	Ring-ditch	T7	4.32km south-southeast	High	Indirect, negative	Very low	Not significant

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH113	KK010-196	Ballyragget	Enclosure	T7	3.57km southeast	High	Indirect, negative	Very low	Not significant
AH114	LA029-032-	Moyne	Urn burial	T1	4.89km northwest	High	No impact	N/a	N/a
AH115	LA029-033	Kilbeg,Dunmore ,Moyne	Bridge	T1	4.43km north-northwest	High	No impact	N/a	N/a
AH116	LA029-034	Swan	Redundant record	T1	4.01km north-northwest	Very low	No impact	N/a	N/a
AH117	LA029-035	Dunmore	Church	T1	4.57km north	High	No impact	N/a	N/a
	LA029-035001	Dunmore	Graveyard	T1	4.57km north	High			
AH118	LA029-037	Watercastle	Ringfort - rath	T1	4.94km north	High	Indirect, negative	Very low	Not significant
AH119	LA029-038	Fermoyle	Quarry	T1	4.2km north-northeast	High	No impact	N/a	N/a
AH120	LA029-042	Castledurrow Demesne,Durrow Townparks	Ecclesiastical site	T2	2.68km north-northwest	High	No impact	N/a	N/a
AH121	LA029-043001	Castledurrow Demesne	Ritual site - holy well	T1	2.71km north-northwest	High	No impact	N/a	N/a
	LA029-043002	Castledurrow Demesne	Cross	T1	2.69km north-northwest	High			
AH122	LA029-045	Durrow Townparks	Church	T1	2.6km north	High	No impact	N/a	N/a

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	LA029-045001	Durrow Townparks	Graveyard	T2	2.6km north	High			
AH123	LA029-046	Course	Redundant record	T1	3.05km north	Very low	No impact	N/a	N/a
	LA029-046001	Course	Ecclesiastical site	T1	3.06km north	High			
	LA029-046002	Course	Ecclesiastical enclosure	T1	3.05km north	High			
AH124	LA029-047	Grenan	Enclosure	T1	3.03km north-northeast	High	No impact	N/a	N/a
AH125	LA029-048	Fermoyle	House - fortified house	T1	3.61km north-northeast	High	No impact	N/a	N/a
	LA029-048001	Fermoyle	Bawn	T1	3.62km north-northeast	High			
AH126	LA029-056001	Durrow Townparks	Stone head	T1	2.6km north	High	No impact	N/a	N/a
AH127	LA029-061	Moyne	Bullaun stone	T1	4.78km north-northwest	High	No impact	N/a	N/a
AH128	LA029-077	Fermoyle	Enclosure	T1	4.48km north-northeast	High	No impact	N/a	N/a
AH129	LA029-078	Dunmore	Field system	T1	4.94km north	High	No impact	N/a	N/a
AH130	LA029-082	Castlewood	Ring-ditch	T1	3.02km north	High	No impact	N/a	N/a

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH131	LA029-086	Grenan	Mound	T1	3.48km north-northeast	High	No impact	N/a	N/a
AH132	LA030-030	Raheenduff (Clanmallagh By.)	Moated site	T1	4.16km northeast	High	Indirect, negative	Very low	Not significant
AH133	LA035-004	Newtown (Clanmallagh By.)	Redundant record	T2	4.59km west-northwest	Very low	No impact	N/a	N/a
AH134	LA035-005	Derreen And Carrowreagh	Ringfort - rath	T2	4.04km northwest	High	Indirect, negative	Very low	Not significant
AH135	LA035-006	Castledurrow Demesne	Enclosure	T2	2.79km northwest	High	No impact	N/a	N/a
AH136	LA035-007	Durrow Townparks	Enclosure	T2	2.37km northwest	High	Indirect, negative	Very low	Not significant
AH137	LA035-008	Toberboe Or Killenny More	Enclosure	T2	3.49km west-northwest	High	No impact	N/a	N/a
AH138	LA035-009	Knocknagrally Or Killenny Beg	Enclosure	T2	3.29km northwest	High	No impact	N/a	N/a
AH139	LA035-010	Capponellan, Clonageera	Enclosure	T2	973m northwest	High	No impact	N/a	N/a
AH140	LA035-011	Tinwear	Enclosure	T2	514m north	High	Indirect, negative	Low	Slight
AH141	LA035-012	Tinwear	Field boundary	T1	1.02km north	High		Very low	Not significant

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	LA035-013	Tinwear	Enclosure	T1	908m north	High	Indirect, negative		
AH142	LA035-014	Grenan	Enclosure	T1	1.13km northeast	High	Indirect, negative	Very low	Not significant
AH143	LA035-015	Grenan	Enclosure	T1	1.41km northeast	High	Indirect, negative	Vert low	Not significant
AH144	LA035-016001	Grenan	Enclosure	T1	1.47km northeast	High	Indirect, negative	Very low	Not significant
	LA035-016002	Grenan	Moated site	T1	1.46km northeast	High			
AH145	LA035-017	Glebe (Clanmallagh By., Durrow Ed)	Church	T1	2.43km northeast	High	Indirect, negative	Very low	Not significant
	LA035-017001	Glebe (Clanmallagh By., Durrow Ed)	Graveyard	T1	2.43km northeast	High			
AH146	LA035-018001	Newtown (Clanmallagh By.)	Enclosure	T2	4.56km west	High	No impact	N/a	N/a
	LA035-018002	Newtown (Clanmallagh By.)	Linear earthwork	T2	4.54km west	High			
AH147	LA035-023	Graigueavoice	Ringfort - rath	T2	4.62km west	High	Indirect, negative	Very low	Not significant

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH148	LA035-024	Graigueavoice	Enclosure	T2	4.57km west	High	Indirect, negative	Very low	Not significant
AH149	LA035-025	Graigueavoice	Enclosure	T2	4.46km west	High	No impact	N/a	N/a
AH150	LA035-026001	Graigueavoice	Ringfort - unclassified	T2	4.26km west	High	Indirect, negative	Very low	Not significant
	LA035-026002	Graigueavoice	Field system	T2	4.26km west	High			
AH151	LA035-027	Graigueavoice	Enclosure	T2	4.23km west	High	Indirect, negative	Very low	Not significant
AH152	LA035-028	Graigueavoice	Enclosure	T2	3.79km west	High	No impact	N/a	N/a
AH153	LA035-029	Toberboe Or Killenny More	Ritual site - holy well	T2	3.52km west	High	No impact	N/a	N/a
AH154	LA035-030	Toberboe Or Killenny More	Enclosure	T2	3.34km west	High	No impact	N/a	N/a
AH155	LA035-031001	Toberboe Or Killenny More	Church	T2	3.35km west	High	Indirect, negative	Very low	Not significant
	LA035-031002	Toberboe Or Killenny More	Graveyard	T2	3.33km west	High			
	LA035-031003	Toberboe Or Killenny More	Gateway	T2	3.37km west	High			
	LA035-031004	Toberboe Or Killenny More	Ecclesiastical enclosure	T2	3.34km west	High			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH156	LA035-032	Toberboe Or Killenny More	Ringfort - unclassified	T2	3.28km west	High	No impact	N/a	N/a
AH157	LA035-033	Toberboe Or Killenny More	Enclosure	T2	3.16km west	High	No impact	N/a	N/a
AH158	LA035-034	Toberboe Or Killenny More	Mound	T2	2.75km west	High	No impact	N/a	N/a
AH159	LA035-035	Toberboe Or Killenny More	Enclosure	T2	3.42km west	High	No impact	N/a	N/a
AH160	LA035-036	Toberboe Or Killenny More	Enclosure	T2	2.81km west	High	No impact	N/a	N/a
AH161	LA035-037	Archerstown	Moated site	T4	843m west-southwest	High	Indirect, negative	Low	Slight
AH162	LA035-038----	Grenan	Enclosure	T3	1.48km east	High	Indirect, negative	Very low	Not significant
AH163	LA035-040001	Bunlacken	Enclosure	T2	4.67km west-southwest	High	Indirect, negative	Very low	Not significant
	LA035-040002	Bunlacken	Field system	T2	4.71km west-southwest	High			
AH164	LA035-041	Graigueavoice	Ringfort - rath	T2	4.39km west-southwest	High	Indirect, negative	Low	Slight
	LA035-096	Graigueavoice	Ringfort - rath	T2	4.34km west-southwest	High			

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
AH165	LA035-044	Ballykealy	Enclosure	T4	3.79km west-southwest	High	Indirect, negative	Low	Slight
AH166	LA035-045001	Ballykealy	Castle - tower house	T4	3.31km west-southwest	High	No impact	N/a	N/a
	LA035-045002	Ballykealy	Well	T4	3.33km west-southwest	High			
	LA035-045003	Ballykealy	Bawn	T4	3.31km west-southwest	High			
AH167	LA035-046	Aharney	Ringfort - rath	T6	2.36km west-southwest	High	No impact	N/a	N/a
AH168	LA035-047	Aharney	Church	T8	2.08km west-southwest	High	Indirect, negative	Low	Slight
	LA035-047001	Aharney	Graveyard	T8	2.07km west-southwest	High			
AH169	LA035-048	Aharney	Ritual site - holy well	T8	2.02km west-southwest	High	Indirect, negative	Very low	Not significant
AH170	LA035-050	Archerstown	Fulacht fia	T8	963m west-southwest	High	Indirect, negative	Very low	Not significant
AH171	LA035-051	Archerstown	Ringfort - rath	T8	1.02km west-southwest	High	Indirect, negative	Low	Slight
AH172	LA035-052	Grenan	Castle - unclassified	T7	1.55km northeast	High	Indirect, negative	Low	Slight

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	LA035-053	Grenan	Castle - motte	T7	1.66km northeast	High			
AH173	LA035-055	Ballykealy	Enclosure	T8	4.87km west-southwest	High	Indirect, negative	Low	Slight
AH174	LA035-058	Ballykealy	Ringfort - rath	T8	4.16km west-southwest	High	Indirect, negative	Low	Slight
AH175	LA035-084	Durrow Townparks	Enclosure	T2	2.27km northwest	High	No impact	N/a	N/a
AH176	LA035-085	Grenan	Enclosure	T3	1.42km east	High	Indirect, negative	Low	Slight
	LA035-086	Grenan	Enclosure	T3	1.37km east	High			
AH177	LA035-087	Grenan	Field system	T5	1.47km east	High	Indirect, negative	Low	Slight
AH178	LA035-088	Grenan	Ring-ditch	T3	1.34km east	High	No impact	N/a	N/a
AH179	LA035-089	Grenan	Enclosure	T1	1.55km northeast	High	Indirect, negative	Very low	Not significant
AH180	LA035-090	Grenan	Enclosure	T3	1.45km east-northeast	High	Indirect, negative	Low	Slight
AH181	LA035-092	Newtown (Clanmallagh By.)	Enclosure	T2	4.84km northwest	High	No impact	N/a	N/a
AH182	LA035-094	Newtown (Clanmallagh By.)	Ring-ditch	T2	4.03km west	High	No impact	N/a	N/a

AH No.	RMP No.	Location	Classification	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	LA035-095	Newtown (Clanmallagh By.)	Ring-ditch	T2	4.04km west	High			
AH183	KK004-024	Ballyconra	Armorial plaque (present location)	T7	1.68km southeast	High	Indirect, negative	N/a	Slight
	KK004-024001	Ballyconra	House - 17th century	T7	1.67km southeast	High			

Built Heritage

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
BH1	C868	12303001	Parksgrove	mill (water)	T7	2.85km southeast	RPS and NIAH	High	Indirect, negative	Very low	Not significant
	C16	12303002	Parksgrove	school	T7	2.87km southeast	RPS and NIAH	High			
	C14	12303003	Ballyragget, Parksgrove	bridge	T7	2.96km southeast	RPS and NIAH	High			
	C15	-	Ballyragget	House	T7	3.07km southeast	RPS	High			
	C540	12303004	Ballyragget	house	T7	3.07km southeast	RPS and NIAH	High			
	C539	12303005	Ballyragget	house	T7	3.14km southeast	RPS and NIAH	High			
	C11	12303006	Ballyragget	house	T7	3.16km southeast	RPS and NIAH	High			
	-	12303007	Ballyragget	house	T7	3.17km southeast	NIAH	Medium			
	C537	12303008	Ballyragget	house	T7	3.18km southeast	RPS and NIAH	High			

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	-	12303009	Ballyragget	house	T7	3.19km southeast	NIAH	Medium			
	C536	12303010	Ballyragget	unknown	T7	3.19km southeast	RPS and NIAH	High			
	C9	-	Ballyragget	Row of 4 Houses	T7	3.21km southeast	RPS	High			
	C12	12303011	Ballyragget	house	T7	3.21km southeast	RPS and NIAH	High			
	C541	12303012	Ballyragget	house	T7	3.22km southeast	RPS and NIAH	High			
	C6	12303013	Ballyragget	church/ chapel	T7	3.28km southeast	RPS and NIAH	High			
	C7	12303014	Ballyragget	house	T7	3.31km southeast	RPS and NIAH	High			
	C479	12303015	Ballyragget	farm house	T7	3.33km southeast	RPS and NIAH	High			
	-	12303017	Ballyragget	water pump	T7	3.15km southeast	NIAH	Medium			
	-	12303018	Ballyragget	outbuilding	T7	3.23km southeast	NIAH	Medium			
	-	12303019	Ballyragget	gates/railings /walls	T7	3.25km southeast	NIAH	Medium			
	C870	12303020	Ballyragget	presbytery/ parochial/ curate's house	T7	3.32km southeast	RPS and NIAH	High			
	-	12303022	Ballyragget	vent pipe	T7	3.37km southeast	NIAH	Medium			
	C871	12303023	Ballyragget	house	T7	3.31km southeast	RPS and NIAH	High			
	C872	12303024	Ballyragget	bridge	T7	3.28km southeast	RPS and NIAH	High			

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
ACA	**Ballyragget**				T7	2.91km southeast	ACA	High	Indirect, negative	Very low	Not significant
BH2	-	12400101	Castlemarket	bridge	T1	4.39km northeast	NIAH	Medium	No impact	N/a	N/a
BH3	-	12400102	Castlemarket	bridge	T1	4.95km northeast	NIAH	Medium	No impact	N/a	N/a
BH4	C376	12400401	Seskin North	house	T8	867m southwest	RPS and NIAH	High	Indirect, negative	Low	Slight
	-	12400403	Seskin North	gates/railings /walls	T8	1.06km southwest	NIAH	Medium			
BH5	C312	12400402	Ballyconra	house	T7	1.67km southeast	RPS and NIAH	High	Indirect, negative	Low	Slight
	-	12400404	Ballyconra	gates/railings /walls	T7	1.55km southeast	NIAH	Medium			
BH6	C262	12400501	Earlsgarden	church/ chapel	T1	3.88km northeast	RPS and NIAH	High	Indirect, negative	Very low	Not significant
BH7	-	12400902	Grange	bridge	T7	4.5km south-southeast	NIAH	Medium	No impact	N/a	N/a
BH8	C347	12400901	Grange	country house	T7	4.49km south-southeast	RPS and NIAH	High	Indirect, negative	Very low	Not significant
	-	12400903	Grange	house	T8	4.9km south-southeast	NIAH	Medium			
	-	12400916	Grange	farmyard complex	T7	4.5km south-southeast	NIAH	Medium			
	D147	12400917	Grange	dovecote/ pigeon house/aviary	T7	4.56km south-southeast	RPS and NIAH	High			
	-	12400918	Grange	bridge	T7	4.59km south-southeast	NIAH	Medium			

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	-	12400919	Grange	gate lodge	T7	4.58km south-southeast	NIAH	Medium			
	-	12400920	Grange	gates/railings /walls	T7	4.57km south-southeast	NIAH	Medium			
BH9	C325	12400907	Acragar	country house	T8	4.39km south	RPS and NIAH	High	Indirect, negative	Very low	Not significant
BH10	C280	12400908	Lisdowney	church/ chapel	T8	2.05km south-southwest	RPS and NIAH	High	Indirect, negative	Low	Slight
BH11	425	12802942	Moyne	house	T2	4.95km north-northwest	RPS and NIAH	High	No impact	N/a	N/a
BH12	167	12803501	Glebe	church/ chapel	T1	2.43km northeast	RPS and NIAH	High	Indirect, negative	Very low	Not significant
	169	12803502	Glebe	rectory/ glebe/ vicarage/ curate's house	T1	2.35km northeast	RPS and NIAH	High			
	168	12803503	Grenan	school	T1	2.39km northeast	RPS and NIAH				
BH13	525	12803505	Grenan	house	T1	1.3km northeast	RPS and NIAH	High	Indirect, negative	Low	Slight
BH14	526	12803506	Durrow Townparks, Grenan, Tinwear	bridge	T1	1.26km northeast	RPS and NIAH	High	Indirect, negative	Very low	Not significant
BH15	449	12803507	Durrow Townparks	house	T1	1.74km north	RPS and NIAH	High	Indirect, negative	Low	Slight

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
BH16	528	12803509	Clonageera	house	T2	1.2km northwest	RPS and NIAH	High	Indirect, negative	Very low	Not significant
BH17	448	12803512	Newtown	house	T2	4.83km northwest	RPS and NIAH	High	Indirect, negative	Very low	Not significant
BH18	772	12900901	Castledurrow Demesne, Course, Durrow Townparks	bridge	T1	2.61km north-northwest	RPS and NIAH	High	Indirect, negative	Very low	Not significant
	154	12900903	Durrow Townparks	house	T1	2.55km north-northwest	RPS and NIAH	High			
	150	12900904	Durrow Townparks	house	T1	2.57km north-northwest	RPS and NIAH	High			
	149	12900905	Durrow Townparks	house	T1	2.57km north-northwest	RPS and NIAH	High			
	147	12900906	Durrow Townparks	house	T1	2.58km north-northwest	RPS and NIAH	High			
	146	12900907	Durrow Townparks	house	T1	2.58km north-northwest	RPS and NIAH	High			
	145	12900908	Durrow Townparks	house	T1	2.59km north-northwest	RPS and NIAH	High			
	144	12900909	Durrow Townparks	house	T1	2.59km north-northwest	RPS and NIAH	High			

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	151	12900910	Durrow Townparks	church/ chapel	T1	2.6km north-northwest	RPS and NIAH	High			
	152	12900911	Castledurrow Demesne	gate lodge	T1	2.53km north-northwest	RPS and NIAH	High			
	164	12900912	Durrow Townparks	church/ chapel	T2	2.45km north-northwest	RPS and NIAH	High			
	-	12900913	Durrow Townparks	house	T2	2.48km north-northwest	NIAH	Medium			
	166	12900914	Durrow Townparks	house	T2	2.48km north-northwest	RPS and NIAH	High			
	155	12900915	Durrow Townparks	court house	T1	2.43km north-northwest	RPS and NIAH	High			
	157	12900916	Durrow Townparks	house	T2	2.43km north-northwest	RPS and NIAH	High			
	156	12900917	Durrow Townparks	house	T1	2.42km north-northwest	RPS and NIAH	High			
	-	12900918	Durrow Townparks	house	T1	2.28km north-northwest	NIAH	Medium			
	790	12900919	Durrow Townparks	Group of houses	T1	2.25km north-northwest	RPS and NIAH	High			
	162	12900920	Durrow Townparks	church/ chapel	T1	2.22km north-northwest	RPS and NIAH	High			

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
	165	12900921	Durrow Townparks	school	T1	2.14km north-northwest	RPS and NIAH	High			
	158	12900922	Durrow Townparks	house	T1	2.41km north-northwest	RPS and NIAH	High			
	159	12900924	Durrow Townparks	house	T1	2.48km north-northwest	RPS and NIAH	High			
	796	12900925	Durrow Townparks	house	T1	2.46km north-northwest	RPS and NIAH	High			
	798	12900927	Durrow Townparks	house	T1	2.48km north-northwest	RPS and NIAH	High			
	409	12900931	Castledurrow Demesne	country house	T2	2.67km north-northwest	RPS and NIAH	High			
	163	-	Durrow	Community Hall	T1	2.14km north northwest	RPS	High			
	148	-	Durrow	House	T1	2.58km north-northwest	RPS	High			
ACA	**Durrow**				T1	2.12km north-northwest	ACA	High	Indirect, negative	Very low	Not significant
BH19	802	12900932	Castledurrow Demesne	obelisk	T2	2.95km north-northwest	RPS and NIAH	High	Indirect, negative	Low	Slight
BH20	880	-	Newtown	Thatched House	T2	4.2km northwest	RPS	High	Indirect, negative	Very low	Not significant

BH No.	RPS No	NIAH	Location	Classification	Nearest Turbine	Distance	Status	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
BH21	820	-	Dunmore	Gazebo At Dunmore Estate	T1	4.63km north	RPS	High	No impact	N/a	N/a
BH22	851	-	Castlewood	Bridge	T1	3.56km north	RPS	High	No impact	N/a	N/a
BH23	-	12400903	Grange	house	T8	4.9km south-southeast	NIAH	Medium	Indirect, negative	Very low	Imperceptible

Designed Landscapes

DL No	NIAH Garden ID	Name	Townland	Nearest Turbine	Distance	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
DL1	1683	Ballyconra House	Ballyconra	T7	786m south	Low	Indirect, negative	Medium	Slight
DL2	1677	Seskin House	Seskin North	T8	126m south	Medium	Indirect, negative	Medium	Moderate
DL3	-	Aharney House	Aharney	T8	1.48km west-southwest	Low	Indirect, negative	Medium	Slight
DL4	-	Archerstown House	Archerstown	T2	802m west-southwest	Medium	Indirect, negative	Medium	Moderate
DL5	254	Grenan House	Grenan	T1	961m east	Medium	Indirect, negative	Medium	Moderate
DL6	246	Castledurrow House	Castledurrow Demense	T2	1.62km northwest	High	Indirect, negative	Medium	Moderate

DL7	-	Ballyragget Lodge	Ballyragget	T7	2.9km southeast	Medium	Indirect, negative	Low	Slight
DL8	1684	Grange House	Grange	T7	4.1km south	Medium	Indirect, negative	Very low	Imperceptible
DL9	1681	Beechhill House	Sweethill	T8	4km south	Low	Indirect, negative	Very low	Imperceptible
DL10	1678	Brookville House	Acragar/ Sweethill	T8	3.5km south	Medium	Indirect, negative	Very low	Imperceptible
DL11	1674	Tinnaslatty House	Tinnaslatty	T8	2.37km southwest	Low	Indirect, negative	Low	Not significant
DL12	244	Moyne House	Moyne/ Kylebeg	T1	3.55km north-northeast	High	Indirect, negative	Low	Slight
DL13	249	Dunmore House	Dunmore/ Coolcorberry	T1	3.7km north	Low	Indirect, negative	Low	Not significant
DL14	255	Attanagh House	Glebe/ Grenan	T1	1.99km east	Medium	Indirect, negative	Medium	Moderate

Cultural Heritage

CH No	Townland	Description	Nearest Turbine	Distance from development	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
CH1	Seskin	Possible enclosure	T4	59m north	Medium	Indirect, negative	High	Moderate
CH2	Seskin	A ruined farm house and outbuilding	T5	300m south	Medium	Indirect, negative	High	Moderate

CH No	Townland	Description	Nearest Turbine	Distance from development	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
CH3	Ballyconra	A vernacular farmyard complex which is shown on the first edition OS map of 1842.	T7	711m south-southeast	Medium	Indirect, negative	Medium	Moderate
CH4	Ballynaslee	Ruined vernacular building that is marked on the first edition OS map of 1842.	T5	230m northeast	Low	Indirect, negative	Medium	Slight
CH5	Seskin	Remains of a lime kiln, located adjacent to the site of a quarry.	T5	200m south-southwest	Medium	Indirect, negative	High	Moderate
CH6	Durrow Townparks	Single-storey four-bay vernacular house incorporated into a larger house.	T1	1.78km north-northwest	Low	Indirect, negative	Very low	Imperceptible
CH7	Durrow Townparks	Ruined vernacular building shown on the first edition OS map of 1842.	T1	1.43km north	Low	Indirect, negative	Very low	Imperceptible
CH8	Tinwear	Ruins of a vernacular farmstead shown on the first edition OS map of 1842.	T1	1.08km north	Low	Indirect, negative	Very low	Imperceptible
CH9	Capponellan	A small group of buildings shown on the first edition OS map of 1842, 'Capponellan House'.	T2	1.54km northwest	Medium	Indirect, negative	Very low	Imperceptible
CH10	Capponellan	A small vernacular farmstead shown on the first edition OS map of 1842, expanded to three buildings by the 1908 map.	T2	1.71km northwest	Low	Indirect, negative	Very low	Imperceptible
CH11	Archerstown	A group of three ruined structures now overgrown, shown on the historic OS mapping.	T2	497m northwest	Low	Indirect, negative	Medium	Slight

CH No	Townland	Description	Nearest Turbine	Distance from development	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
CH12	Archerstown	Ruins of a vernacular structure shown on the first edition OS map of 1842.	T4	1.51km west	Very low	Indirect, negative	Low	Imperceptible
CH13	Archerstown	An L-shaped vernacular structure shown on the first edition OS map of 1842, now forming part of a modern farmyard.	T6	1.03km west	Low	Indirect, negative	Medium	Slight
CH14	Aharney	Vernacular cottage shown on the first edition OS map of 1842.	T8	1.67m west-southwest	Medium	Indirect, negative	Low	Slight
CH15	Lisdowney	Group of vernacular structures and lime kiln shown on the first edition OS map of 1842.	T8	1.82km southwest	Low	Indirect, negative	Low	Not significant
CH16	Seskin Little	Vernacular farmstead, group of three structures shown on the first edition OS amp of 1842. Now incorporated into a modern farmyard.	T8	1.71km southwest	Low	Indirect, negative	Low	Not significant
CH17	Seskin North	Group of three vernacular structures, arranged in a linear pattern along a local road.	T8	1.42km south-southwest	Low	Indirect, negative	Low	Not significant
CH18	Seskin South	A vernacular farmstead shown on the first edition OS map of 1842. Now incorporated into a modern farmyard.	T8	1.91km south	Low	Indirect, negative	Low	Not significant
CH19	Ballyconra	A vernacular farmstead shown on the first edition OS map of 1842, now forms part of a modern farmyard.	T7	1.41km east	Low	Indirect, negative	Low	Not significant

CH No	Townland	Description	Nearest Turbine	Distance from development	Sensitivity of Receptor	Impact type	Magnitude of Impact	Significance of Effect
CH20	Ballyconra	A group of vernacular structure shown on the first edition OS map. Now forms part of a modern farmyard.	T7	845m northeast	Low	Indirect, negative	Low	Not significant
CH21	Grenan	Two groups of vernacular structures shown on the first edition OS map of 1842. Both groups together form a modern farm complex.	T1	1.72km northeast	Low	Indirect, negative	Very low	Imperceptible
CH22	Ballynaslee	L-shaped vernacular structure shown on the first edition OS amp of 1842.	T1	547m east	Very low	Indirect, negative	Low	Imperceptible
CH23	Ballynaslee	Vernacular cottage shown on the first edition OS map of 1842. Now incorporated into a modern farmyard.	T3	760m east	Low	Indirect, negative	Low	Not significant

APPENDIX 13-4

ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE FIGURES

Appendix 13.4 Archaeological, Architectural and Cultural Heritage Figures

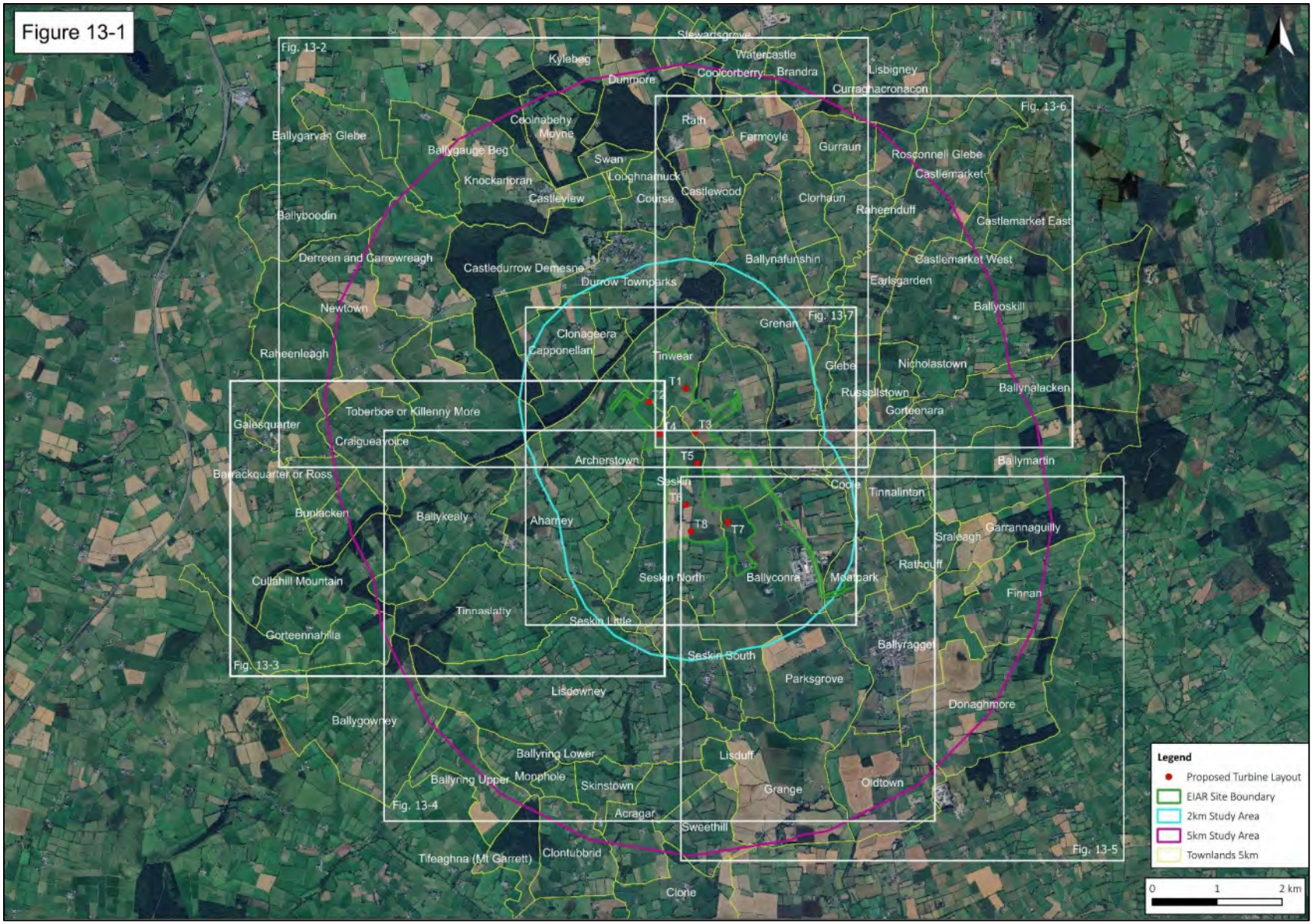

Figure 13.1 Location of the Site showing study areas and townlands

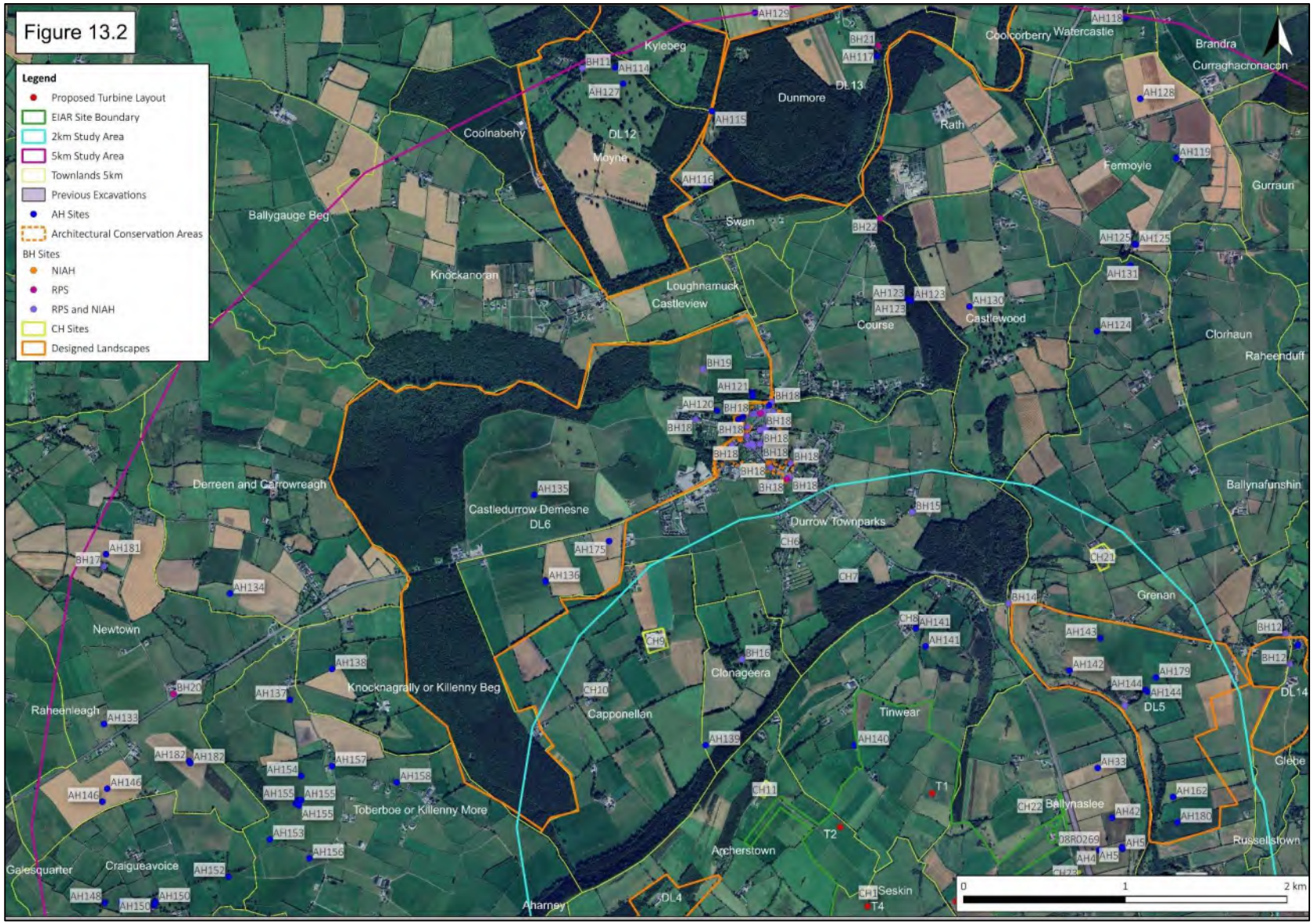

Figure 13.2 Location of the Site and archaeological, architectural and cultural heritage sites in the 2km study area

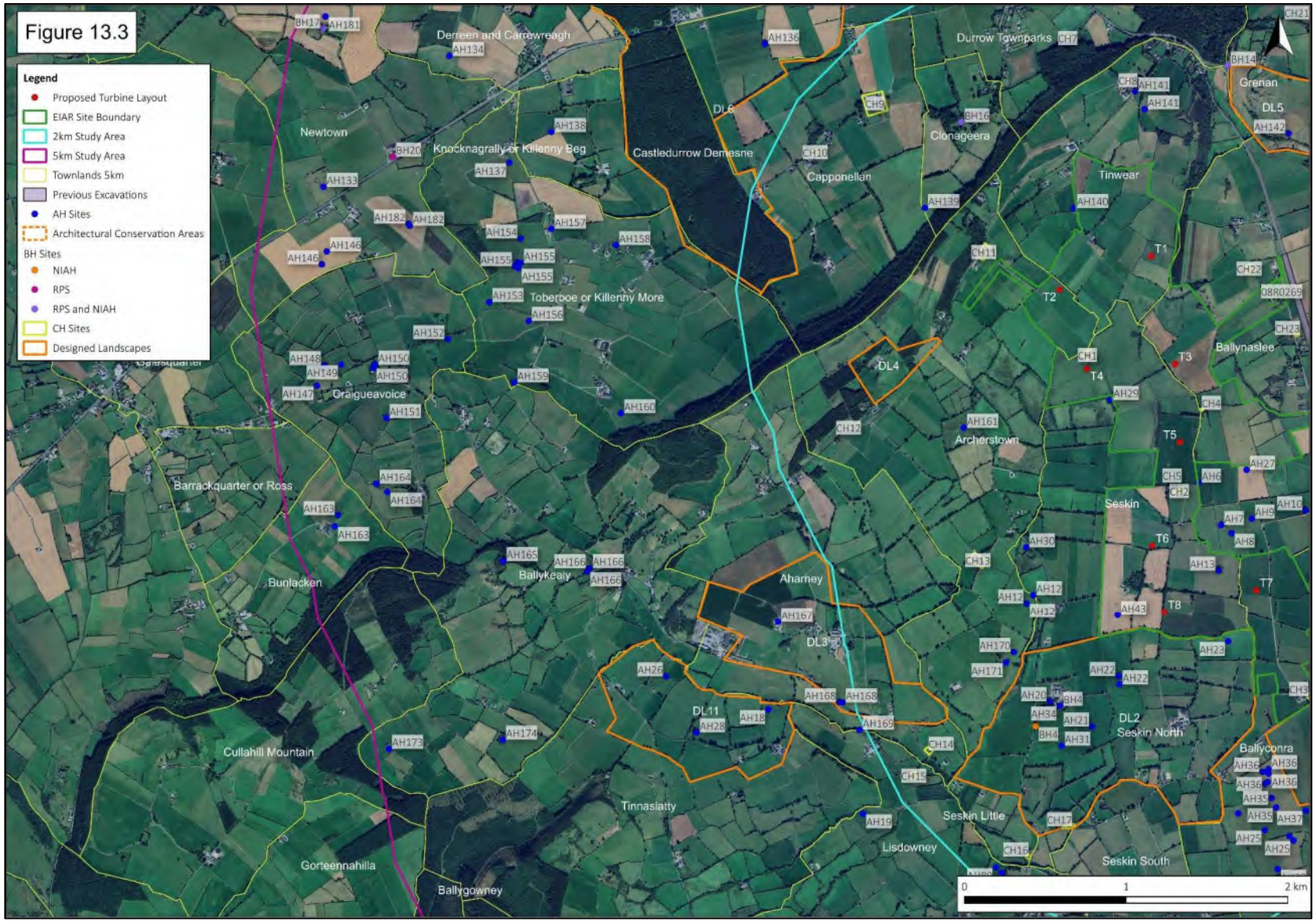

Figure 13.3 Location of the Site and archaeological, architectural and cultural heritage sites in the 2km study area



Figure 13.4 Location of the Site and archaeological, architectural and cultural heritage sites in the 2km study area

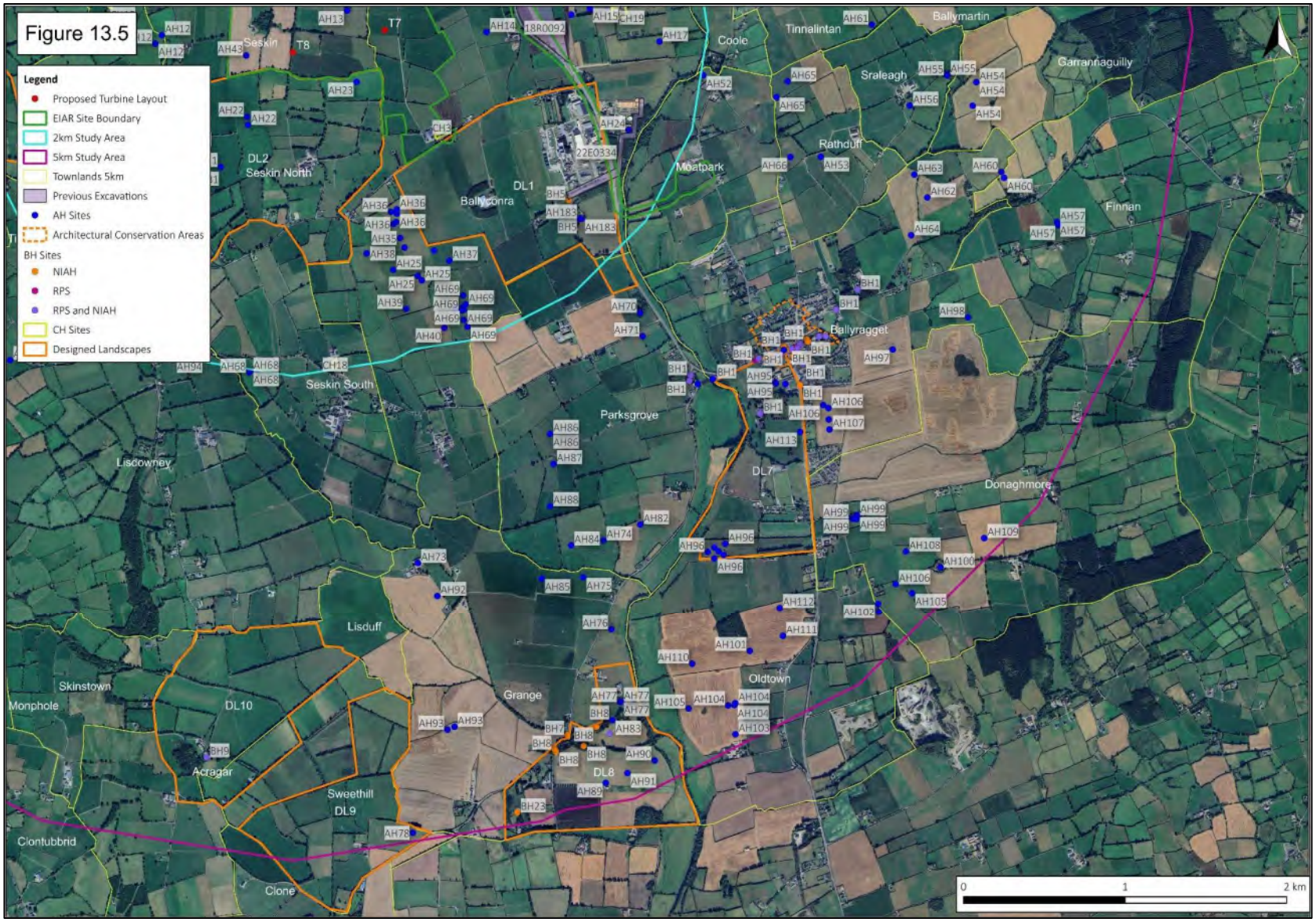

Figure 13.5 Location of the Site and archaeological, architectural and cultural heritage sites in the 2km study area



Figure 13.6 Location of the Site and archaeological, architectural and cultural heritage sites in the 2km study area



Figure 13.7 Location of the Site and archaeological, architectural and cultural heritage sites in the 2km study area

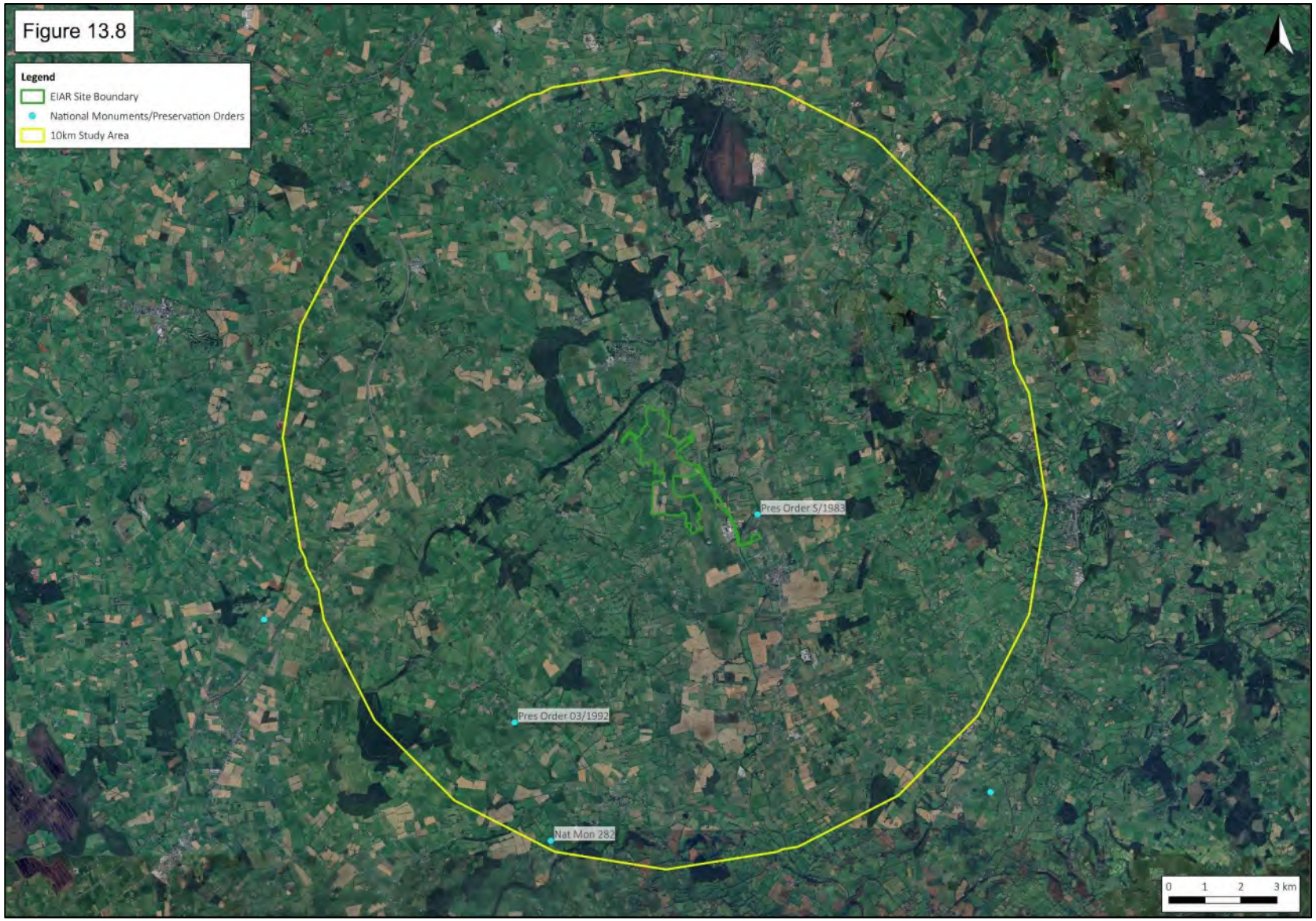

Figure 13.8 National Monuments and sites with POs within the 10km study area

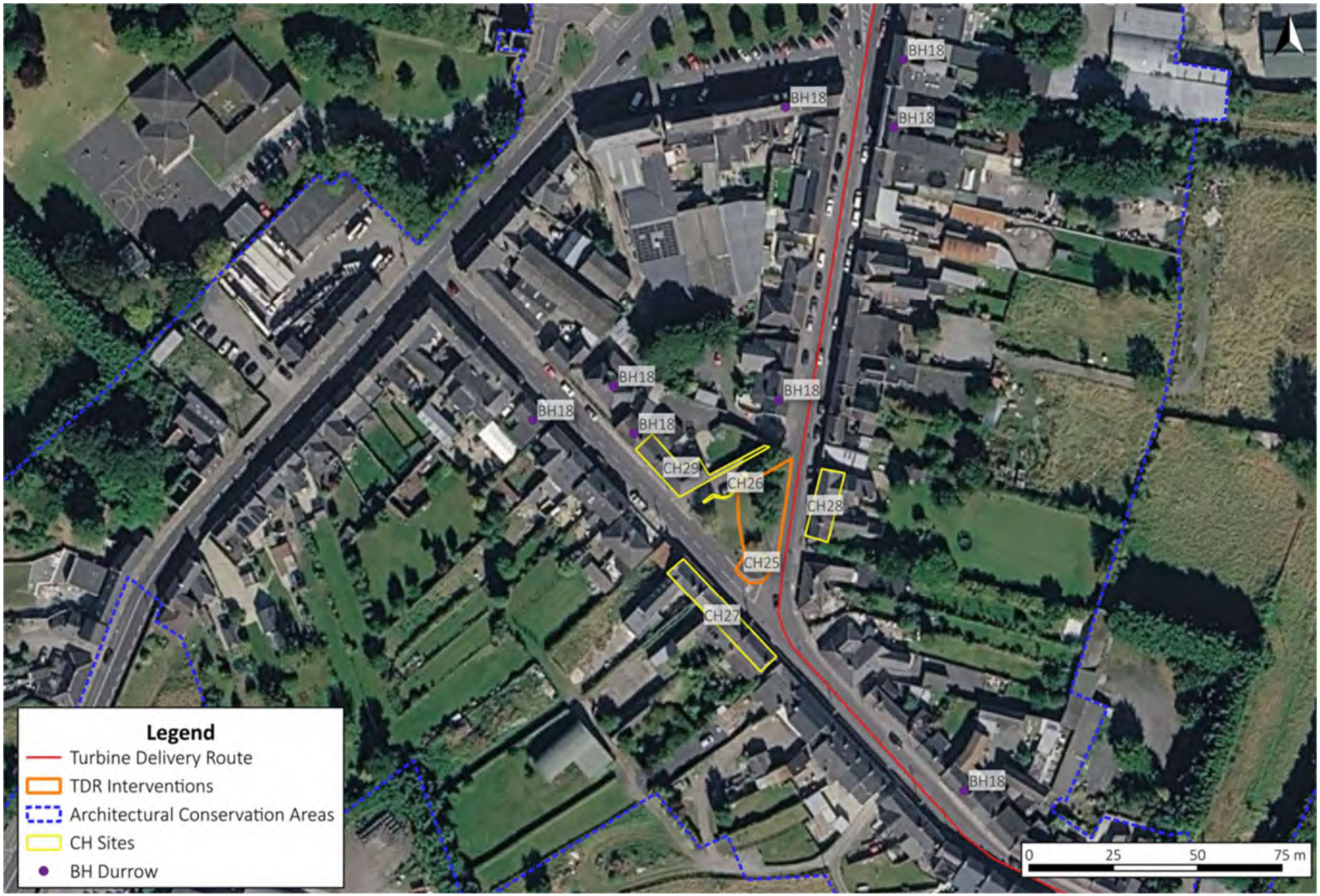

Figure 13.9 Proposed TDR intervention area in Durrow