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Case Number ACP – 324290-26

Lissinagroagh Wind Farm

Response to Submissions Report

FuturEnergy Ireland

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Appendix B - Revised EIAR Appendix 9-3

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1. INTRODUCTION

1.1 PURPOSE OF THIS REPORT

This report has been prepared in response to a letter from An Coimisiún Pleanála (ACP) dated 31st July 2026, inviting the applicant (FuturEnergy Lissinagroagh Designated Activity Company) to respond to the 97 submissions received in respect of a planning application for the proposed Lissinagroagh Wind Farm development in County Leitrim (ACP case number 324290-26).

We confirm that the following responses address all the matters raised in the submissions.

1.2 FORMAT OF RESPONSE

This response document firstly addresses the themes raised in the prescribed body submissions followed by the third party submissions. Each theme is discussed in a specific section of this response. The submissions contain a large number of comments. Although many comments do not necessitate response, it should not be taken that the applicant accepts or agrees with those comments. This submission has focused on the points raised under each theme where a response is warranted and may be helpful for ACP in making a determination on the application.

All specialists involved in the preparation of the Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) have reviewed each of the individual observations and have provided a technical response to the items relevant to their area of expertise and EIAR chapter.

2. PRINCIPAL OF RESPONSE

2.1 PRESCRIBED BODIES

2.1.1 Leitrim County Council

2.1.1.1 *Turbine Delivery Route*

The Planning Authority has expressed concern (submission pages 40 and 41) that alterations to roadside boundary outside the defined application site may be required to facilitate the delivery of turbine components and that the application does not therefore address the full extent of works necessary to construct the proposed development. Reference is also made to planning applications submitted by Bord na Móna Powergen Ltd. in relation to accommodation works associated with the consented Oweninny Wind Farm Phase 3 development.

As described in Chapter 1 (Introduction) of the EIAR, the proposed project includes an assessment of any temporary accommodation works that may be required within the public road corridor to facilitate the delivery of turbine components to the site. The purpose of including such works within the project description and assessment is to ensure that any environmental effects associated with turbine transportation have been identified and evaluated as part of the overall assessment of the proposed development.

The Turbine Delivery Route (TDR) assessment has been informed by a detailed swept path analysis and engineering review, which identify locations where accommodation measures may potentially be required to facilitate the movement of abnormal loads. The assessment of these measures has been undertaken on a precautionary basis to ensure that the likely environmental effects associated with turbine delivery have been comprehensively considered. The precise scope, necessity and detailed design of any accommodation measures would be determined at a later stage following detailed engagement with the relevant road authorities and other stakeholders, as appropriate.

The planning application seeks consent for the proposed wind farm and associated permanent infrastructure within the defined application boundary. The EIAR has assessed the proposed development, including turbine transportation and any associated accommodation measures that may be required to facilitate delivery of components. The Applicant therefore considers that sufficient information has been provided to enable An Coimisiún Pleanála to undertake a full and informed assessment of the likely significant environmental effects of the proposed development and that the application appropriately addresses the works required for its construction. Accordingly, the Applicant does not accept that the application is incomplete.

The Applicant notes the references made to the Oweninny Wind Farm Phase 3 accommodation works applications. However, each planning application falls to be assessed on its own merits and in the context of its circumstances. The Applicant trusts that An Coimisiún Pleanála will discharge its statutory function by undertaking an objective assessment of the proposed development based on the evidence before it and the applicable planning and environmental considerations, rather than by reference to unrelated or ongoing cases.

2.1.1.2 Landowner Maps

The Leitrim County Council submission states they would have expected a map outlining the ownership of the land (submission page 26).

In response, there is no statutory requirement to submit a land ownership map distinguishing individual ownership interests within the application boundary. The planning application clearly identifies the extent of the proposed development through the submitted red line boundary, blue line boundary, and associated pack of drawings.

The Applicant has secured landowner consents for the purposes of making the application, which have informed the blue line boundary maps submitted as a part of this application. Accordingly, the information submitted is sufficient for the purposes of the planning application and the Commission's assessment.

2.1.1.3 Environment Department Observations and Recommendations

The Environment Department of Leitrim County Council has made a number of observations and recommendations on page 58 of their submission. The are with regards to:

1. Temporary storage of waste. The Applicant accepts that any temporary on site storage of waste, including excavated bitmac/tarmac, spoil or construction waste, shall occur only in designated areas and in accordance with waste legislation and any required waste authorisation.
2. Excavated peat and soil. The Applicant confirms that all excavated peat and spoil shall be managed strictly in accordance with the Spoil and Peat Management Plan and deposited only in approved areas under geotechnical supervision.
3. Hazardous waste. Hazardous waste is discussed in Section 5.2.6 of the submitted Construction Environmental Management Plan (CEMP). Should a planning grant of approval be received, the Applicant will prepare a separate Hazardous Waste Management Plan.
4. Decommissioning Waste. Should a planning grant of approval be received, the Applicant will provide a Decommissioning Waste Plan for agreement with the Planning Authority at least 12 months prior to decommissioning, detailing all waste streams, including turbine blades.
5. Record keeping. Should a planning grant of approval be received, the Applicant will maintain records of all waste movements (quantities, EWC codes, collectors, receiving facilities) during the construction and operational phases, and make them available for inspection.
6. Peat extraction. Should a planning grant of approval be received, the Applicant confirms that mitigation measures outlined in EIAR Chapter 19 (Schedule of Mitigation Measures) and the CEMP will be prioritised.

2.1.1.4 Chapter 3 Reasonable Alternative Queries

A number of queries were raised by Leitrim County Council's Environment Section (page 95 of submission). In response;

1. The MW output for the project is 77-100.8MW. The 110.8 stated within the chapter was a typo.

2. It is confirmed the proposed grid connection route consists of a 110 kV underground cable which is approximately 32 km in length (of which 30.6 km will be in the public road corridor), which will be installed from the 110 kV substation to the existing ESNB Srananagh Substation, Co. Sligo.

3. Details regarding the proposed TDR are provided in EIAR Chapter 2 (Description of the Proposed Project), Appendix 2-1 TDR Report and Chapter 16 (Traffic and Transportation). Alternative turbine delivery routes were considered by the project team and proved difficult with the turbine technology proposed. Some pinch point works required would not have been economically viable and overall would cause more disturbance to the local residents. These alternative route options were screened out from further detailed assessments when a preferred route option was clear. The preferred TDR assessment is presented in EIAR Appendix 2-1 and illustrates the length, pinch points and accommodation works required.

2.1.1.5 Drawing queries

There are a number of queries on page 38 of the Leitrim County Council submission regarding the submitted drawings.

1. *The Site Layout Plan (Sheet 9 of 9) has 2 no. annotations shown with respect to this access road, 'Proposed Temporary Site Access 1 (Refer to Drg. No: 10955-2078 for details, Turbine delivery only)' and 'Proposed Site Access Road (Refer to Drg. No: 10955-2033 for details).*

The first annotation mentioned to above refers to the access point of the temporary site access track, details of which are shown on Drawing 10955-2078. The second annotation mentioned above refers to the road type at this location and refers to the track construction detail Drawing 10955-2033.

2. *The drawing also shows that the entirety of this track is shown in dark grey which from the legend corresponds with 'Proposed Permanent Access Road' although considered an oversight.*

It is confirmed that this is a typo in the legend. This is indeed a temporary access track for turbine delivery only.

3. *The former drawing referenced in the annotations is a generic drawing titled 'Proposed Track Construction Details'. It refers to 3 types of Access Track – Excavate & Replace; Standard Access Road Construction; and Widening of Existing Track (outside of peat areas). It is assumed that the subject roadway is Type 2 although an EIAR should not rely on a consenting authority having to make assumptions.*

It is confirmed that the road type will be a standard type 2 access track at this location.

4. *The latter drawing is not a standard road design drawing and shows minimal detail on an aerial overview. There is no legend shown on this drawing. No details of the road construction, width, finished ground levels, treatment with existing public roads, etc. are provided. No contours are provided to allow the Planning Authority to present an informed view to the Commission.*

This drawing was prepared to show requirements for access at the temporary access location 1 and to show where works are required for turbine delivery, i.e. hedgerow removal etc., Contours and dimensions are shown at this location on Drawing 10955-2019. There will be some short

duration disruption during construction of the track but access will be largely maintained except through agreement with the local authority. Any deliveries across this road are relatively few. Detailed engagement with local residents will take place ahead of construction and deliveries. There are no significant cut and fill requirements on this road and it will closely match existing ground levels.

5. *The access roadway does appear from examination of mapping that it traverses across a drain with no details of proposed culverting. This is shown in the green oval overleaf in Figure 15.*

This access track is temporary and will be used for turbine component deliveries only. This drain will be crossed via temporary modular steel bridge structure and will be reinstated post construction.

2.1.1.6 Chapter 15 Material Assets Queries

A number of queries were raised by Leitrim County Council's Environment Section in relation to waste (page 75 and 76 of submission).

In response a Waste Management Plan (WMP) can be found within the Construction Environment Management Plan (CEMP) submitted as Appendix 2-4 of the EIAR.

As noted in the CEMP, this CEMP is a live document and will be reviewed and updated, as necessary. Upon appointment, the Main Contractor for construction of the project shall produce an updated version of the CEMP (i.e. the Contractor's CEMP) which will account for any additional requirements set out in Planning Conditions.

A detailed WMP will be developed prior to construction commencing. As noted in the CEMP WMP (see Section EMP 5), the Waste Management Hierarchy will be assessed and applied in the preparation and maintenance of the WMP. It will include analysis of the waste arising/material surpluses; specific waste management objectives for the project; methods proposed for prevention, reuse and recycling of wastes, and material handling procedures (including removal to permitted facilities).

It is noted that Leitrim have asked for a full WMP to be prepared prior to construction commencing and this document should include detailed waste streams and quantifications, a breakdown of all operational and decommissioning waste types, including hazardous waste, identification of permitted waste collectors and licenced receiving facilities with confirmation of acceptance and capacity. This is acceptable to the Applicant.

2.1.1.7 Landowner Consent

The Leitrim County Council submission queries if consent letters have been received for areas along the Turbine Delivery Route (TDR). It is confirmed that all areas where works are proposed on private lands within the redline boundary have the relevant landowner consents as submitted with the planning application. The redline boundary does not extend to the lands identified.

It is currently understood that another wind farm project with turbines of similar scale is proposing to use the same route as this project for a significant part of the TDR. A separate planning application will be prepared as required when this is better understood. All TDR requirements for the full route have been fully assessed in the Environmental Impact

Assessment Report (EIAR) and Natura Impact Statement (NIS) based on the current configuration of the route.

All lands where works are proposed, including the Biodiversity Management Plan lands which are located within the planning application boundary, have the appropriate letters of consent as submitted with the planning application.

2.1.1.8 Turbine Delivery Route and Archaeological Impact

The Leitrim County Council submission queries if works on the Leminea Bridge and on a section of a dry stone wall at Cashelaveela are required and if consent has been obtained.

In response, the redline boundary does not extend to Lemanea Bridge. All TDR requirements for the full route have been fully assessed in the EIAR and NIS based on the current configuration of the route. A separate planning application will be prepared, as required, for the TDR at the appropriate time.

The dry stone wall at Cashelaveela (CH50) is fully assessed in Chapter 14 (Archaeological, Architectural and Cultural Heritage) in the EIAR and the impact is considered to be insignificant.

2.1.1.9 Peatland Loss & Degradation Risk

In Section 13.1 Biodiversity - Peat Loss and Degradation Risk, Leitrim County Council raises concerns, which are addressed below.

The Applicant acknowledges the commitment to the protection of biodiversity, including Annex I Blanket bog in the Leitrim Biodiversity Action Plan. Chapter 5 (Biodiversity) Section 5.5 lists various aspects of project design which have avoided direct impacts on sensitive Important Ecological Features. Of note is bullet point three detailing the micro-siting of T3, T4 and T10, which avoids direct impacts on the priority Annex I habitat type 7130 *Blanket bog (active) (Chapter 5 (Biodiversity) Section 5.6.2.3.16). The proposed development will not result in the direct loss of any area of the priority Annex I habitat type 7130 *Blanket bog (active). The proposed development clearly demonstrates strict avoidance of this habitat type.

A combined total of 38.83 ha of Upland blanket bog (PB2) is present within the wider survey area of the proposed wind farm site (EIAR Chapter 5 (Biodiversity), Section 5.4.2.1.27). The survey area is the area where ecological field surveys were undertaken by specialists for each ecological feature. The potential for likely significant effects on peatlands is summarised in Table 5-24 EIAR Chapter 5 (Biodiversity) Section 5.9. The potential for likely significant effects on peatlands is limited to:

- Direct loss of 0.55 ha of Upland blanket bog (PB2) corresponding to the non-priority Annex I habitat type 7130 Blanket bog (inactive) in unfavourable condition.
- Direct loss of 0.89 ha Cutover bog (PB4) corresponding to the non-priority Annex I habitat type 7130 Blanket bog (inactive) in unfavourable condition.
- Indirect degradation from drainage of 2.64 ha of Upland blanket bog (PB2) corresponding to the non-priority Annex I habitat type 7130 Blanket bog (inactive) in unfavourable condition.

- Indirect degradation as a result of dust deposition of 0.9 ha of Upland blanket bog (PB2) corresponding to the priority Annex I habitat type 7130 *Blanket bog (active) in favourable condition.

A clear commitment to peatland restoration has been demonstrated in EIAR Chapter 5 (Biodiversity) Section 5.7, which commits to the management of 5.4 ha of peatlands for biodiversity. Furthermore, the Applicant commits to the management of a total area of 218.4 ha for the primary target species hen harrier as well as secondary habitats and species, as detailed in the Outline Biodiversity Management Plan EIAR Chapter 6 (Ornithology), Appendix 6-13.

Accordingly, the Applicant considers that the concerns raised regarding the protection of peatlands have been appropriately addressed through the project design, including the avoidance of priority Annex I 7130 *Blanket bog (active), the assessment of potential effects on peatland habitats, and the proposed peatland management and restoration measures.

2.1.1.10 High Sensitivity of SAC Linkages

In Section 13.2 Biodiversity – High Sensitivity of SAC Linkages, Leitrim County Council raises concerns, which are addressed below.

Detailed consideration has been given within the Appropriate Assessment Screening Report and Natura Impact Statement (NIS) to the potential for likely significant effects on European sites and, where relevant, the potential for adverse effects on the integrity of the Natura 2000 network.

In particular, Lough Gill Special Area of Conservation (SAC) was screened into Stage 2 Appropriate Assessment, and a detailed assessment of the potential for adverse effects on the SAC, having regard to its conservation objectives, is provided in Section 5.1.1.11 of the NIS. The assessment considered the potential for the proposed development to give rise to the following impact pathways:

- Habitat loss;
- Groundwater impacts;
- Surface water impacts;
- Disturbance to Qualifying Interest (QI) species; and
- Transmission of Invasive Alien Species (IAS).

The NIS subsequently provides a detailed assessment of the potential for adverse effects on the conservation objectives of the following QIs of Lough Gill SAC:

- 3150 Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation
- 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)
- 1092 White-clawed Crayfish (*Austropotamobius pallipes*)
- 1095 Sea Lamprey (*Petromyzon marinus*)
- 1096 Brook Lamprey (*Lampetra planeri*)
- 1099 River Lamprey (*Lampetra fluviatilis*)
- 1106 Atlantic Salmon (*Salmo salar*)
- 1355 European otter (*Lutra lutra*)

Accordingly, the potential adverse effects and QIs identified in the submission have been considered in detail within the AA/NIS, with the assessment undertaken in view of the conservation objectives for Lough Gill SAC and the potential for the proposed development to result in adverse effects on the integrity of the European site.

With regards SAC linkages, it should be noted that the Planning Authority have not raised any concerns about the Appropriate Assessment Screening Statement or Natura Impact Statement as concluded in Section 20.2 Assessment, of the Chief's Executive Report:

"The Planning Authority would agree with the conclusions of the Appropriate Assessment Screening Statement. The Planning Authority would consider that the applicant has carried out sufficient and robust mammal and bird surveys in accordance with best practice and guidance to demonstrate that the development on the site would not have an adverse impact on the site integrity of the nearby sites within the Natura 2000 network. The Planning Authority does not have an evidential basis to dispute the conclusions of the submitted NIS that following mitigation, the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European sites. This conclusion is based on a complete assessment of all aspects of the proposed project, both alone and in combination with other plans and projects, and it has been established beyond scientific reasonable doubt that there will be no adverse effects. On the basis of the submitted NIS, the Planning Authority is satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the sites' conservation objectives."

2.1.1.11 Hydrological Risk to High-Value Catchments

In Section 13.3 Biodiversity – Hydrological Risk to High-Value Catchments, Leitrim County Council raises concerns, which are addressed below.

The Applicant acknowledges the prioritisation of water quality in the Leitrim Biodiversity Action Plan, specifically in relation to protected watercourses in Lough Gill and Lough Melvin Special Area of Conservation (SAC).

The extensive hydrological connectivity within the receiving environment, including downstream river waterbodies, lakes and estuarine systems, has been considered within the EIAR Chapter 5 (Biodiversity), specifically Section 5.6.2.1.1.3 *Lough Gill SAC* and Section 5.6.2.1.1.4 *Lough Melvin SAC* and Section 5.6.2.1.1.5 *Lough Melvin SAC (NI)*. Water quality mitigation measures for the protection of downstream SACs are summarised in EIAR Chapter 5 (Biodiversity) Section 5.6.2.1.4.

Embedded mitigation is the primary method implemented to avoid downstream effects on high value catchments, inclusive of; no-instream works, the use of clear span bridges and Horizontal Directional Drilling at watercourse crossings, 50 m set back distances between all turbine hardstands and watercourses, 30 m setback distances from karst features, SuDS measures within the proposed wind farm site, and the installation of hydrocarbon interceptors at construction compounds (EIAR Chapter 5 (Biodiversity) Section 5.5). The mitigation measures proposed comprise established and widely accepted good-practice measures to prevent the downstream transmission of sediment and pollutants, which have been effectively implemented

on similar developments. For a more detailed assessment on mitigation measures for the protection of water quality refer to EIAR Chapter 8 (Hydrology and Hydrogeology) Section 8.5.

It is therefore considered that the concerns raised regarding hydrological connectivity and the potential risk to high-value downstream catchments have been appropriately addressed within the EIAR, through consideration of the relevant hydrological pathways, sensitive downstream receptors and the implementation of specific measures to protect surface water quality.

2.1.1.12 Fragmentation and Ecological Connectivity

Less than 200 m of hedgerows (WL1)/Treeline will be lost within the proposed wind farm site. As such, the resulting fragmentation of linear habitat within the wind farm site will be minimal.

An additional total loss of approximately 1.3 km of hedgerows and treelines is anticipated at discrete locations along the 122 km Turbine Delivery Route (TDR).

The proposed habitat enhancement measures include the planting of approximately 1.5 km of new hedgerow within the identified enhancement lands. This will provide additional linear habitat and contribute to maintaining and enhancing ecological connectivity within the wider landscape. The new hedgerow planting will provide additional habitat and movement opportunities for a range of native species.

Considering the limited extent of hedgerow and treeline loss within the proposed wind farm site, the nature and location of the losses along the TDR, and the proposed planting of approximately 1.5 km of new hedgerow, the proposed development is not considered likely to result in a significant residual effect on ecological connectivity as a result of habitat fragmentation at the landscape scale.

2.1.1.13 Over-Reliance on Mitigation

The proposed development has been designed with consideration of the Chartered Institute of Ecology and Environmental Management (CIEEM) mitigation hierarchy, with every effort made to implement effective avoidance, mitigation and compensation measures. Embedded mitigation, also referred to as avoidance by design, is the primary method implemented to avoid likely significant effects on Important Ecological Features (IEFs). For a detailed list of embedded design measures refer to EIAR Chapter 5 (Biodiversity) Section 5.5.

For example, the proposed project avoids in-stream works and karst features in order to avoid likely significant effects on water quality inclusive of downstream SACs. Similarly, the proposed project avoids the direct loss of priority Annex I habitat type 7130 *Blanket bog (active).

Where likely significant effects cannot be avoided or mitigated in full due to the infrastructure requirements of the proposed development, compensation measures have been proposed where appropriate, to deliver no significant overall residual effects on the conservation objectives of IEFs.

The assertion that the EIAR does not provide a “measurable net biodiversity gain” does not represent a requirement of the Irish planning system or environmental assessment framework. There is currently no general statutory requirement in Ireland for a proposed development to demonstrate biodiversity net gain. While Ireland’s 4th National Biodiversity Action Plan establishes national objectives for biodiversity conservation and restoration, and places specific

biodiversity duties on public bodies, it does not impose a general biodiversity net gain requirement on developments.

Notwithstanding the above, the Applicant commits to the management of a total area of 218.4 ha for the primary target species hen harrier as well as secondary habitats and species, as detailed in the Outline Biodiversity Management Plan EIAR Chapter 6 (Ornithology), Appendix 6-13.

2.1.1.14 Species Risk

Annex II species have been identified in Chapter 5 (Biodiversity) as IEFs including but not limited to:

- Marsh fritillary (*Euphydryas aurinia*);
- European otter (*Lutra lutra*);
- Atlantic salmon (*Salmo salar*);
- European eel (*Anguilla anguilla*);
- White-clawed crayfish (*Austropotamobius pallipes*);
- Brook lamprey (*Lampetra planeri*);
- River lamprey (*Lampetra fluviatilis*); and
- Sea lamprey (*Petromyzon marinus*).

As previously stated, the avoidance of in-stream and karst features constitutes avoidance by design, facilitating the protection of IEFs within downstream watercourses. Similarly, the avoidance of all identified marsh fritillary webs constitutes avoidance by design. In addition, thereby avoiding direct impacts on known breeding populations.

In addition to these embedded avoidance measures, further mitigation measures are proposed where necessary to minimise potential residual effects on Annex II species. These include species-specific measures such as; fencing-off exclusion zones, translocation, dust mitigation measures, water quality mitigation measures, supervision of associated works by an Ecological Clerk of Works, and other relevant best-practice measures.

Furthermore, detailed targeted ecological surveys have been undertaken across the proposed wind farm site, along the Turbine Delivery Route and along the Grid Connection Route. The survey data obtained has informed the embedded design of the proposed development and enabled targeted mitigation measures to be developed in response to the ecological sensitivities identified. The proposed mitigation measures therefore complement the avoidance measures incorporated into the project design and further minimise the potential for residual effects on identified ecological receptors.

2.1.1.15 Invasive Species

The proposed Invasive Species Management Plan adopts a long-term approach to control of identified species listed on the Third Schedule (S.I. 477/2011) and First Schedule (374/2024) within the proposed wind farm site over the lifespan of the project. A commitment to complete eradication of established high-risk species is not considered appropriate for such species as Himalayan balsam, Japanese Knotweed and Rhododendron, as this may not be ecologically achievable in all circumstances. The management approach therefore focuses on preventing

further spread, reducing the extent and abundance of invasive species, and controlling regrowth through ongoing monitoring and targeted treatment. The Invasive Species Management Plan is included in Chapter 5 (Biodiversity) Appendix 5-6. A summary of the mitigation measures for invasive species control is provided in Chapter 5 (Biodiversity) Section 5.6.2.5.

2.1.1.16 Ornithology

Leitrim County Council's submission comprises the Chief Executive's Report on the application, seven numbered concerns relating to ornithology raised by the Council's Biodiversity Officer, a more measured institutional response from the Planning Authority itself (addressed further at Item 5 below), a formal Council Resolution passed by the elected Members, and a councillor's discussion point from the Special Council Meeting of 20 July 2026. The Council's own summary of the EIAR's Ornithology chapter records that 1 to 2 breeding pairs of hen harrier, an Annex I species under the EU Birds Directive, are present on or adjacent to the site annually, forming part of the Leitrim Uplands non-designated important breeding area, and that the EIAR itself identifies a significant, long-term negative effect on the species at the national scale before compensation is applied. That is not in dispute. Read together, the Biodiversity Officer's seven concerns raise four substantive themes, addressed in Items 1-4 below. The Council's formal Resolution and discussion point from the Special Council Meeting of 20 July 2026 are addressed in Items 5-7.

1. Site selection, mitigation hierarchy and compensation. The Biodiversity Officer's central concern, developed across four of the seven numbered points (points 1-4 in the Biodiversity Officer's Report), is that the significant effect identified on breeding and foraging hen harrier has not been avoided by site selection or design, and is instead addressed through compensation rather than avoidance, in a manner they consider inconsistent with the Leitrim Biodiversity Action Plan's avoidance-first hierarchy and with the wider policy expectation that sensitive breeding landscapes should be avoided rather than mitigated. The Biodiversity Officer frames this as: the site lying within a key upland bird area that should have informed site selection rather than being addressed solely through project-level mitigation; the EIAR treating territory disruption as accepted and compensated rather than avoided; and the resulting compensation package amounting to a biodiversity trade-off rather than protection, since compensation cannot fully replicate lost or disrupted functional habitat in the same ecological context.

Response

(1) This matter is addressed in EIAR Chapter 6, the CEMP (EIAR Appendix 2-4) and the Outline Biodiversity Management Plan (OBMP; EIAR Appendix 6-13). The mitigation hierarchy set out in CIEEM (2024) guidance¹ has been applied, i.e. beginning with the avoidance of impacts where possible, the application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts, as set out in EIAR Chapter 6, Section 6.2.6.4. Avoidance is embedded in the layout itself via 'mitigation by design', which maintains a minimum 750 m separation from the two Nesting Enhancement Areas (EIAR Chapter 6, Section 6.4.1.1), and disturbance-free construction buffers of up to 1,000 m are applied around confirmed nests (EIAR Chapter 6, Section 6.4.1.2.1); consistent with the precautionary buffer of up to 1,000 m recommended by Goodship and Furness (2022) and cited by the DAU in its submission. Item 2).

¹ CIEEM. (2024). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.



operational effects on nesting habitat will be avoided and construction disturbance to nesting birds will be avoided. Compensation (i.e. the 218.4 ha package of Nesting Enhancement Areas and foraging enhancement land addressed in full below), is applied only to the residual, unavoidable effect of operational displacement that remains once avoidance and mitigation have been exhausted, which is the standard sequence under CIEEM guidance.

The Biodiversity Officer is right that a significant effect is identified: EIAR Chapter 6, Table 6-20 assesses the effect of operational disturbance and displacement on breeding and foraging hen harrier as significant, long-term and negative at the national scale, both for the species generally and in relation to the Leitrim Uplands non-designated important breeding area specifically, before compensation is applied (EIAR Chapter 6, Section 6.4.5.5, EIAR Chapter 6, Table 6-20). The EIAR does not understate or seek to conceal this finding. EIAR Chapter 6, Table 6-24 confirms that no further mitigation is available to reduce the effect: it was not appropriate to design the turbine layout around historical nest sites, which vary year on year with ongoing forestry cycles (EIAR Chapter 6, Section 6.4.1.1).

The Biodiversity Officer's submission raises the concern that compensation cannot fully replace hen harrier territories that are lost or disrupted by the development. This concern rests on an assumption that the territories in question are fixed and would otherwise persist in the absence of the proposed project, which is not supported by the EIAR evidence. Nest locations at the site have shifted year on year, reflecting ongoing forestry rotation cycles that will continue whether the wind farm is built or not (EIAR Chapter 6, Section 6.4.2); as illustrated by the southern breeding pair, which nested or attempted to nest across a corridor of approximately 2.5 km between 2020 and 2024; as referenced in the DAU submission, Item 2 existing habitat suitability across the site will continue to fluctuate through those cycles regardless of this project. In the absence of the proposed project, the EIAR's baseline evolution assessment (EIAR Chapter 6, Section 6.4.2) finds that the regional hen harrier population is likely to continue its existing declining trend, over 25% regional decline recorded to 2022², in the absence of concerted conservation action, since there is currently no dedicated hen harrier management at the site beyond general Coillte guidance. The relevant comparison is therefore not fixed territories against a compensation scheme that can never fully substitute for it, but a dynamic, unmanaged and declining do-nothing trajectory against a fixed, long-term secured, actively managed compensation scenario: two Nesting Enhancement Areas secured by legal agreement; foraging enhancement across 164.25 ha likewise secured by agreement and delivered under individual Farm Plans; both subject to management and monitoring throughout the operational life of the wind farm, with an adaptive management framework if monitoring shows the response is not working (EIAR Chapter 6, Section 6.4.11; OBMP Appendix 6-13). The OBMP's approach to long-term management has been developed in direct response to NPWS's advice, given at the 18 March 2026 consultation meeting, on why past forestry conversion schemes in Ireland and the UK have failed (see DAU submission, Item 3). All biodiversity management lands are located fully within the red line boundary and their implementation will be a condition of any

² Ruddock, M., Wilson-Parr, R., Lusby, J., Connolly, F., Bailey, J. & O'Toole, L. (2024) The 2022 National Survey of Breeding Hen Harrier in Ireland. Irish Wildlife Manuals, No. 147. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland. Available at: <https://www.npws.ie/sites/default/files/publications/pdf/IWM147.pdf>



grant of planning. On that basis the compensation strategy will deliver a net ecological improvement over the emerging / do-nothing baseline trajectory without the project.

The proposed wind farm site overlaps with only around 2% of the total area of the Leitrim Uplands non-designated important breeding area for hen harrier (EIAR Chapter 6, Table 6-11).

In summary, the mitigation hierarchy set out in CIEEM (2024) guidance has been applied in full: avoidance through layout design and construction-phase nest buffers, mitigation of unavoidable effects, and compensation only for the residual effect that remains once those measures are exhausted. The EIAR does not understate the significant effect identified on breeding and foraging hen harrier, nor does it treat that effect as accepted without response. The correct comparison against which the compensation package should be judged, however, is not a fixed territory that would otherwise persist unchanged, but a dynamic, unmanaged and declining emerging / do-nothing trajectory. Against that scenario and affecting only around 2% of a much wider non-designated important bird area, the 218.4 ha compensation package delivers a fixed, long-term secured and actively managed outcome that represents a net ecological improvement rather than a trade-off of one habitat for another.

2. *Displacement and WINDHARRIER study (point 6 in the Biodiversity Officer's Report). The Biodiversity Officer also has related concerns that the EIAR's focus on collision risk understates the true effect, since for raptors displacement and habitat change are often more important than collision, citing the UCC WINDHARRIER research programme's finding that small bird prey availability for hen harrier decreases within approximately 100 m of turbines, with consequent effects on foraging success, territory quality and, ultimately, territory abandonment.*

Response

(2) The EIAR does not just focus on collision risk; while it covers it, its primary focus for hen harrier is on operational disturbance. Hen harrier displacement and habitat change has been examined extensively within the EIAR Ornithology Chapter (EIAR Chapter 6, Section 6.4.2). On the specific WINDHARRIER prey-availability finding: the effect within approximately 100 m of turbines that the Biodiversity Officer describes is drawn from Fernández-Bellon *et al.* (2019)³, a peer-reviewed, guild-specific study of bird density around Irish wind farms, and its actual finding is more specific than the general summary in the submission suggests. The density reduction found near turbines applied to forest-associated species and reflects the physical clearance of plantation for turbine bases and access tracks, a habitat loss effect rather than a distance-based avoidance response. The density of open-habitat species, including meadow pipit and skylark, the species that make up much of the hen harrier's actual prey base, showed no relationship with distance to turbines. The relevant displacement distance for hen harrier is 250 m, drawn from Pearce-Higgins *et al.* (2009)⁴ and the basis for this is extensively discussed and evaluated in the Hen Harrier Foraging Habitat Loss Report (Appendix 6-12, Section 3.1).

³ Fernández-Bellon, D., Wilson, M. W., Irwin, S., & O'Halloran, J. (2019). Effects of development of wind energy and associated changes in land use on bird densities in upland areas. *Conservation Biology*, 33(2), 413–422. <https://doi.org/10.1111/COBI.13239>

⁴ Pearce-Higgins, J. W., Stephen, L., Langston, R. H. W., Bainbridge, I. P., & Bullman, R. (2009). The distribution of breeding birds around upland wind farms. *Journal of Applied Ecology*, 46(6), 1323–1331. <https://doi.org/10.1111/J.1365-2664.2009.01715.X>



In summary, displacement has been fully considered in the EIAR and using a precautionary approach, a significant effect has been predicted in the absence of compensation.

3. Non-designated land and passerine species (point 5 in the Biodiversity Officer's Report). The Biodiversity Officer separately submits that the EIAR underestimates the importance of non-designated land on and around the site for farmland birds and passerines generally, on the basis that the Leitrim BAP places strong value on locally important biodiversity areas outside the Natura 2000 network and that farmland birds and other passerines are themselves in serious decline and in need of protection, whereas the EIAR does not treat passerines as primary assessment targets and does not refer to passerine conservation priorities under the all-Ireland Birds of Conservation Concern list.

Response

(3) Passerine species are not included as primary assessment targets because they are not generally considered significantly impacted by wind farms (NatureScot, 2025⁵; EIAR Chapter 6, Section 6.2.3.2.1.1.1). This is standard best practice and it is notable that the Department of Housing, Local Government and Heritage's submission, addressed below, does not raise passerine species as a concern. This approach is consistent with the empirical evidence mentioned in EIAR Chapter 6, Section 6.4.3.2.1.2, which shows passerines are heavily under-represented in documented European collision records relative to their abundance. This does not mean non-designated land is treated as being of no value: the site's habitats, including the farmland and upland margins the Biodiversity Officer has in mind, are surveyed and assessed in full under Chapter 5 Biodiversity, and are a significant part of the compensation package itself, 164.25 ha of foraging enhancement delivered through bespoke Farm Plan prescriptions, represents active management of exactly this kind of non-designated agricultural and marginal land. The purpose of managing land for hen harrier foraging habitat is, in significant part, to increase the prey base of small birds, many of which are themselves passerines; the EIAR records that the compensation and enhancement measures are likely to generate significant ancillary benefits for a range of upland bird species beyond hen harrier itself (EIAR Chapter 6, Sections 6.4.10, 6.4.10.1).

In summary, the Biodiversity Officer's concern is addressed on both counts: non-designated land is not treated as being of lesser value, but is surveyed, assessed and actively managed under the compensation package, and while passerines are correctly excluded from primary assessment targets in line with standard practice and the evidence base, they are nonetheless expected to benefit from the foraging habitat enhancement delivered for hen harrier.

4. Cumulative effects (point 7 in the Biodiversity Officer's Report). The Biodiversity Officer's final concern is that the cumulative effect of this development together with other wind farms and forestry in the area on the national hen harrier population has been underplayed, given that the population is already small, estimated at approximately 108 to 157 breeding pairs nationally, declining and spatially restricted, such that even moderate additional pressures can be significant at the population level.

⁵ NatureScot. (2025d). Recommended bird survey methods to inform impact assessment of onshore windfarms. <https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms>



Response

(4) Cumulative impacts have been assessed within 20 km of the site (EIAR Chapter 6, Section 6.4.7), following IWEA (2012)⁶ and NatureScot (2025)⁷ guidance and there is no attempt to underplay cumulative effects. The cumulative assessment specifically includes the adjacent, operational Faughary Wind Farm, 220 m west, with hen harrier identified as a shared receptor (EIAR Table 6-25), drawing on Faughary's own compliance monitoring reports from 2015 to 2019. The national population figure the Council cites is consistent with the range relied upon in the EIAR itself, and the EIAR's cumulative assessment does not disregard the population's small size or declining trend; it is precisely that context which informs the scale and design of the compensation package addressed above in Leitrim County Council submission Item 1. The Biodiversity Officer's submission points to forestry and agricultural management, alongside wind farms, as sources of pressure on hen harrier, and this is not disputed. The EIAR and OBMP expressly acknowledge forestry and agriculture as ongoing pressures (see EIAR Chapter 6, Section 6.4.2 and the baseline-evolution discussion; OBMP Appendix 6-13, Section 1.3). The OBMP's function is to provide active, secured management of part of the site for hen harrier for the lifetime of the project, a materially better situation for the species than the current, unmanaged baseline, under which hen harrier already struggle to breed successfully in a landscape shaped by ongoing commercial forestry cycles, addressed further under the response to Leitrim County Council submission Item 1.

In summary, the cumulative assessment has been carried out in accordance with recognised IWEA and NatureScot guidance, explicitly includes the adjacent Faughary Wind Farm as a shared hen harrier receptor, and does not disregard the population's small size, decline or the additional pressures of forestry and agriculture; rather, it is this context that has shaped a compensation package designed to leave hen harrier better off than under the current, unmanaged baseline.

5. No loss. At the Special Council Meeting of 20 July 2026, the elected Members passed a formal Resolution fully endorsing the Biodiversity Officer's report and stating that "there must be no loss associated from the proposed development to the habitat of known breeding hen harriers".

Response

(5) A "no loss" standard is not achievable in this landscape regardless of whether the proposed project proceeds. As set out above in Leitrim County Council submission Item 1, hen harrier nesting habitat at the site is not fixed, changing over time in response to ongoing forestry cycles and changes in agricultural management. This is not merely a general observation; the southern pair itself nested or attempted to nest across a corridor of approximately 2.5 km between 2020 and 2024 (as referenced in the DAU submission, Item 2), directly evidencing the scale of that variability. In the absence of the proposed project, the regional population is likely to continue its existing declining trend in the absence of concerted conservation action.

The Resolution's "no loss" wording is an absolute formulation. It does not correspond to the tested significance standard applied to hen harrier and every other ecological receptor

⁶ IWEA. (2012). Best Practice Guidelines for the Irish Wind Energy.

⁷ NatureScot. (2025a). Guidance - Assessing the cumulative impacts of onshore wind farms on birds. <https://www.nature.scot/doc/guidance-assessing-cumulative-impacts-onshore-wind-farms-birds>



throughout EIAR Chapter 6, which follows the CIEEM (2024) methodology referenced above in Leitrim County Council submission Item 1, and assesses effects by magnitude, duration and geographic frame of reference (the "significant, long-term, negative at national scale" finding at Table 6-20 being an example of that graded approach) rather than by any loss/no-loss threshold.

Nor is "no loss" the standard applied elsewhere in the Council's own submission. The Biodiversity Officer's own report, at Point 2 ("Reliance on Compensation Rather Than Avoidance"), frames the underlying concern in qualified terms: that compensation "may not replicate functional habitat loss in the same ecological context," not that any loss whatsoever is impermissible. That framing is drawn from the County Leitrim Biodiversity Action Plan 2026–2031's objective to "strengthen existing populations, not relocate or offset them," which is a statement of policy preference for avoidance over compensation, not an absolute prohibition on any change to habitat. The Planning Authority's own response to the Biodiversity Officer's report (Section 14.7) likewise grounds the concern in the BAP's conservation and avoidance objectives (NH POL 10, NH OBJ 10 of the County Development Plan 2023–2029), again without reference to a "no loss" test. The compensation strategy addressed under the response to Leitrim County Council submission Item 1 above delivers a net ecological improvement over the emerging/ do-nothing baseline, which is the correct comparison, rather than an absolute avoidance of any change whatsoever to the site's habitat, which is not achievable by any development, or none, in an actively cycling forestry and agricultural landscape.

In summary, a "no loss" standard is neither the standard the EIAR is required to meet nor the standard the Council's own submission otherwise applies to hen harrier or to any other ecological receptor; the graded, evidence-based test set out in CIEEM (2024) guidance has been correctly applied throughout, and against that test the compensation strategy addressed above represents a robust and proportionate response to a significant effect that no site selection or design choice could have avoided.

6. A councillor's discussion point at the Special Council Meeting, not itself a formally passed resolution, adds that the EIAR contains over 3,000 references to the word "mitigation", put forward as evidence that the response to biodiversity impact is structured around trade-off by compensation rather than avoidance.

Response

(6) This point is recorded in the meeting minutes as a matter discussed by members and is not among the five formal Resolutions passed at the meeting. The reference to over 3,000 occurrences of the word "mitigation" reflects the fact that the term is used throughout a document of this length, including in headings, cross-references and generic assessment language across more than twenty chapters. It is not evidence of over-reliance on mitigation for hen harrier specifically. As set out in the response to Leitrim County Council submission Item 1 above, the mitigation hierarchy actually applied to hen harrier follows CIEEM (2024) guidance, beginning with avoidance by design and construction-phase buffers, with compensation applied only to the residual effect that remains once avoidance and mitigation are exhausted.

7. Dough Wind Farm Group. The same Meeting record shows the elected Members separately "fully endorsed the Submission made to An Coimisiún Pleanála by the Dough Wind Farm Group", a named third party.

Response

(7) The Council's reference to a "Dough Wind Farm Group" submission is understood to be the Save Dough Mountain Community Group submission, which is the most detailed third-party submission received on ornithology. That submission is addressed in full under later sections of this response document, and the Council's Resolution is answered by that response wherever it draws on the same material.

2.1.1.17 Archaeological, Architectural and Cultural Heritage

Section 17 of the submission from Leitrim County Council notes that Chapter 14 of the EIAR has not adequately considered impacts to built heritage along the Turbine Delivery Route (TDR). As part of the assessment laid out in Chapter 14, the Swept Path Analysis report has been analysed in order to identify impacts to archaeological, architectural and cultural heritage receptors. As outlined in Section 14.1.5 all areas of proposed over run and oversail have been assessed, and a study area of 50 m from the TDR has been assessed for areas of proposed accommodations. These areas were subject to a desk-based assessment as well as a site inspection. The assessment for potential impacts included recorded monuments, Protected Structures, buildings listed on the National Inventory of Architectural Heritage (NIAH), designed landscapes and previously unrecorded cultural heritage sites.

As noted in the Council's submission, several built heritage receptors are located along the TDR. However, the assessment has not identified any direct impacts to built heritage sites as a result of the proposed TDR over run and oversail and accommodations. It is acknowledged that the potential for accidental damage to built heritage sites remains. To mitigate potential accidental damage, all cultural heritage features (including built heritage features) along the TDR will be mapped and added to the CEMP prior to the construction phase commencing and shared with the TDR contractors.

The submission refers to the proposed TDR oversail at Location 5, where Cemetery Road meets the N16, and highlights the presence of St. Clare's Church (RPS No. 57; NIAH No. 30805029) and Presbytery (NIAH No. 30805028). Both structures are captured in the EIAR within the BH04 group. The Swept Path Analysis notes that the turbine blades will oversail the boundary walls of these buildings, and does not propose tree clearance within the curtilage of the buildings. As such, no impacts to these buildings have been identified during the assessment.

The submission refers to a c. 20 m section of the Leminea Bridge wall that is required to be lowered to accommodate oversail (Location 1). This is acknowledged in Chapter 14, which records the bridge as CH74. This is assessed as a direct, negative (permanent) effect to CH74. Prior to the application of mitigation, this effect will be slight.

The submission refers to a section of a dry stone wall at Cashelaveela that will have to be demolished to facilitate the TDR. This is captured in Chapter 14 as CH50. The Chapter acknowledges that ground disturbances would result in a direct, negative, permanent effect on the wall. Only a short section of the wall will be demolished, with a large section remaining unaffected to the east. Prior to the application of mitigation, this effect will be slight.

The submission notes three inconsistencies in Chapter 14. These are clarified below:

1. *Inconsistent Counts of Archaeological Sites:* A total of 121 AH sites, comprising individual monuments or groups of monuments, within the 5 km study area of the proposed wind farm site. Of these 121 AH sites, 9 include redundant records.
2. *Cultural Heritage Sites Within the Footprint - Internal Conflict:* A total of nine CH sites (CH02, CH03, CH04, CH12, CH13, CH14, CH15, CH22, CH23) are located within the footprint of proposed works associated with the proposed wind farm site, and five (CH50, CH67, CH69, CH74, CH76) are within the footprint of TDR/GCR.
3. *“No Predicted Effects” Conflicts with Later Direct Effects:* The Leminea Bridge (CH74) will be directly impacted, as a c. 20 m length of bridge wall may be lowered to accommodate turbine oversail. Section 14.4.2 should list CH24, CH55–57, CH66–73, CH75 as having no predicted direct or indirect effects.

2.1.1.18 Landscape and Visual

Section 10.1 of the Chief Executive’s Report from Leitrim County Council provides a detailed review of LVIA that forms part of the proposed project application. It should be noted from the outset that there is a considerable degree of agreement from the local authority and the submitted assessment. Nonetheless, there are several matters outlined by the local authority which are addressed under the headings below:

1. Perceived emphasis on commercial forestry within the assessment;
2. Omission of turbines from the proposed array;
3. Cumulative effects with Faughary Wind Farm; and
4. Clarification of significant effects.

2.1.1.19 Perceived emphasis on commercial forestry within the assessment

The planning authority notes in its assessment that it considers that “*too great an emphasis is placed on the prevailing pattern of large-scale managed forestry on Dough Mountain and existing renewable energy infrastructure adjoining in Saddle Hill*”. It is important to note that both the existing extensive areas of forestry and the existing wind energy development are characteristic features of this part of the landscape and are therefore referred to numerous times throughout the assessment, both in the baseline sections of the report and in the impact assessment. This is on the basis that the proposed project will almost always be viewed in combination with either one or both of these features. This land cover and these built features also highlight the robust and modified nature of the site and its immediate surrounding landscape, which can readily accommodate further forms of development.

Importantly, the assessment does not rely solely on forestry as a screening measure for the proposed project. Whilst, in some instances within the assessment, the surrounding forestry and other layers of stacked vegetation aid in screening and softening the proposed project, it is the extensive nature of the surrounding commercial forestry that assists in assimilating the scale and function of the proposed turbines within this landscape. It is not considered that the “*proposed wind farm development, as presented, will give rise to significant conflicts of scale, form and land use compatibility*”. Commercial-scale forestry is an established component of upland and marginal landscapes, where wind farm developments are commonly found. Indeed, where visible in combination, wind farm developments and blocks of conifer forestry can be perceived as complementary components of a working upland landscape rather than as two unrelated



forms of development. Similarly, the broad scale of conifer plantations assists in assimilating the scale of wind farm development, in contrast with the more condensed and smaller-scale pastoral land uses often found in lowland landscapes, where conflicts of scale may be more apparent.

2.1.1.20 Omission of turbines from the proposed array

There is no clear landscape or visual rationale for the omission of T03, T13 and T14. While these turbines are identified as being more prominent in certain views and/or as presenting as slight outliers to the main array, the LVIA already acknowledges and assesses these effects. Indeed, none of the effects generated by these turbines, or groups of turbines, results in landscape or visual effects of a level that would warrant their removal.

With regard to turbine T03, it is noted in VP08 that this turbine presents as the most prominent turbine within the view, with the residual visual effect assessed as Moderate. However, aside from this representative viewpoint, T03 often presents as part of the wider turbine array without specifically drawing the eye or presenting in a notably more prominent manner than the surrounding turbines. The planning authority notes that T03 would “tower above Saddle Hill”, which appears to be its clearest rationale for the removal of this turbine. However, as set out in the assessment, T03 and the other surrounding turbines do not appear overscale in the context of the broad upland underlying terrain, which is evident in VP08. With reference to VP16 within the assessment, T03 appears to rise only marginally higher on the skyline than the highest turbine in the existing Faughery array.

With regard to turbines T13 and T14, which present as slight outliers to the main array, similar considerations apply to those outlined for turbine T03 above. The negative visual effects associated with their presentation as ‘outliers’, as noted in the submitted assessment, do not generate landscape or visual effects of a level that would warrant their removal. Whilst some higher-ranging visual effects are associated with these turbines in localised locations, most notably along the nearest sections of the surrounding local roads, these effects are classified as Not Significant.

Overall, the recommendation to remove T03, T13 and T14 appears to represent a preference for further layout refinement rather than a response to an identified Significant or otherwise unacceptable landscape or visual effect. Their omission would reduce the extent of development in some views; however, the LVIA does not demonstrate that their removal is necessary to avoid Significant landscape or visual effects.

2.1.1.21 Cumulative effects with Faughary Wind Farm

The Council notes the substantial difference in scale between the existing Faughary turbines and the proposed turbines, noting that the proposed turbines would be considerably taller and more numerous. This is not disputed within the submitted report, however one key point here is that the lands that contain the proposed project are characterised by an established wind energy development, which aids in visually assimilating the function of the proposed project within this context. Whilst there are several instances where the existing and proposed turbines have the potential to be perceived as one development, this is more notable within the wider surrounding landscape, with the conflict of scale more discernible within the immediate surrounds of the site. However, as the existing turbines tend to be located at higher elevations

than a large number of the proposed turbines, the potential for notable conflicts of scale is more limited.

Furthermore, the existing Faughary turbines are not relied upon as justification for an unlimited intensification of wind energy development. Its relevance is that turbines are already an established component of the perceptual and functional character of Saddle Hill and its surroundings, as noted above. The proposed project would therefore represent an intensification of an existing wind energy influence, rather than the first introduction of wind energy infrastructure into an otherwise wholly undeveloped upland landscape.

2.1.1.22 Clarification of Significant effects

The local authority questions how the LVIA can identify a Substantial-moderate / Negative / Long-term operational effect within and immediately around the wind farm site while concluding that the overall landscape and visual effects are Not Significant. The assessment methodology contained in EIAR Chapter 13 establishes a significance matrix based on receptor sensitivity and magnitude of change (refer to the Effect Significance Matrix at Table 13.3 of the submitted LVIA). The methodology then establishes a defined threshold for determining whether an effect is considered Significant in EIA terms, in accordance with GLVIA3.

In summary, effects designated as 'Substantial' and above are classified as Significant. Effects below Substantial, including Substantial-moderate, are classified as Not Significant. In this regard, the terms 'Substantial-moderate' and 'Not Significant' are not contradictory but instead reflect the defined significance thresholds established and consistently applied within the LVIA methodology. It is important to note that Substantial-moderate represents a relatively high-ranging adverse effect and clearly acknowledges that a notable degree of landscape or visual change will occur. It represents the highest level of effect within the applied methodology that remains classified as Not Significant in EIA terms.

2.1.1.23 Summary

Overall, there is a considerable degree of agreement between the planning authority and the findings of the submitted LVIA. In particular, the local authority accepts the Medium landscape sensitivity attributed to the site and central study area, considers that the scale of the Dough Mountain plateau can accommodate the general siting and design approach, identifies no adverse effects on designated views or prospects, and concludes that the proposed project would have a Moderate operational landscape effect within 1-5 km from the site (central study area), reducing beyond this distance and not resulting in an unacceptable effect on the wider receiving landscape.

The remaining matters principally relate to differences in professional judgement rather than fundamental disagreement with the LVIA. The references to commercial forestry and existing wind energy development reflect their established influence on the character and scale of this working upland landscape and are not relied upon solely as screening or justification for development. Similarly, whilst T03, T13 and T14 generate some of the more notable visual effects within the array, no clear landscape or visual basis has been established for their omission, as the effects associated with these turbines remain below the threshold of significant effects within the submitted LVIA. The relationship with Faughary Wind Farm is also

acknowledged as an intensification of an existing wind energy influence, including some localised differences in turbine scale, but does not result in a significant cumulative effect. Finally, the identification of localised Substantial-moderate effects is entirely consistent with the overall conclusion of Not Significant, as Substantial-moderate represents the highest level of effect below the defined Significant threshold within the applied LVIA methodology.

2.1.1.24 Annualised Construction Emissions are used inconsistently

Page 105 of the Leitrim County Council submission describes inconsistency in construction emissions. A transcription error has occurred (566 tCO₂e was stated rather than 387 tCO₂e in Table 12-10 of the EIAR chapter), see below for revised Section 12.7.2.2. The amendments are minor and do not alter the contribution of the proposed project to relevant targets or the significance of effect of the project.

2.1.1.24.1 Revised Section 12.7.2.2

During the operational phase there will be no Green House Gas (GHG) emissions from the operation of the wind turbines. The estimated 77–100.8 MW from the turbines will generate a minimum of 222,592 MWh and a maximum of 291,393 MWh of renewable energy annually, assuming a 33% capacity factor. This energy production will displace electricity which otherwise would have been produced from fossil fuels and therefore will be a net benefit in terms of greenhouse gas emissions.

The total annual GHG emission savings of the proposed project will amount to approximately 51,510 tCO₂e (77 MW) and 67,551 tCO₂e (100.8 MW), once the GHG emissions from the construction phase (as outlined in Section 12.7.2.1) have been considered.

The estimated total GHG emissions savings for the 77 MW scenario, when annualised over the 35-year proposed project lifespan, are equivalent to 0.1% of Ireland's total GHG emissions in 2024 (and 0.7% of GHG emissions from equivalent fossil fuel energy production), 1.7% of the total carbon budget for the electricity sector in 2030 and 0.4% of Ireland's ETS 2030 emissions target (Government of Ireland, 2025) i.e. the proposed project has the potential to reduce Ireland's CO₂e emissions by these percentages.

Table 2-1: Estimated Operational Phase Project GHG Savings

Development Savings	Emissions &	tonnes CO ₂ e	Baseline / Relevant Target	tonnes CO ₂ e	% of Baseline / Relevant Target
Annual Equivalent GHG Emissions from Power Plant Producing 223 GWh		51,897			
Annualised GHG Emissions due to Construction Phase (averaged over lifespan)		387			
Total Annual Savings Due to the proposed project (averaged over lifespan)		51,510	Ireland's Total GHG Emissions 2024 (existing baseline)	57,640,000	0.1%
			Ireland's GHG Emissions from Fossil Fuel Energy Production 2024 (existing baseline)	7,157,440	0.7%
			ETS 2030 Target (42% of 2005 ETS Level)	12,953,240	0.4%
			2030 Sectoral Budget (Electricity Sector)	3,000,000	1.7%

The proposed project will assist in the CAP25 goal of producing 80% electricity from renewables for the grid and 9 GW of onshore wind capacity, which is one of the Key Targets identified in Section 11 of CAP25. The proposed project will constitute 0.08 to 0.1 GW of that capacity and will abate Ireland's greenhouse gas emissions by between 51,510 tCO₂e (0.05 MtCO₂e) and 67,551 tCO₂e (0.07 MtCO₂e) for every year of operation.

2.1.1.25 No GHG Emissions from Operation

In response to the query raised by Leitrim County Council on page 105 and 106 of their submission response, in accordance with ISEP 2026 GHG Guidance, activities that are expected to contribute less than 1% of total lifetime GHG emissions (up to a cumulative total of 5%) can be excluded from assessment. Due to the proposed project's anticipated operational GHG emissions savings across its 35-year lifespan (1,802,851 tCO₂e up to a maximum of 2,364,278 tCO₂e) the construction and decommissioning phase GHG emissions have been scoped out as they will be separately < 1% each and cumulatively less than 5% of the total proposed project lifetime GHG emissions savings.

2.1.1.26 Decommissioning Emissions are scoped out but still relevant

Page 106 of Leitrim County Council submission response is concerned with scoping out decommissioning emissions.

Section 12.4.1.3 of EIAR Chapter 12- Climate highlights the end-of-life process for turbine components:

- *End-of-life recycling of metals will be carried out at the wind farm in order to reduce the climate impact, as per the Life Cycle Assessments (LCAs). As per these LCAs, the majority of the metal components that are primarily mono-material (e.g. gears, transformers, tower sections, etc.) will be recycled.*
- *It is expected that the reinforced concrete foundation bases will remain in-situ.*

The Section also directs readers to EIAR Chapter 2- Project Description where further information on decommissioning can be found in Section 2.11, which states:

- *Upon decommissioning of the proposed wind farm project, the wind turbines will be disassembled in reverse order to how they were erected. All above ground turbine components will be separated, cut up to allow them fit on a standard articulated lorry and removed off-site for recycling.*
- *Turbine foundations will remain in place underground and along with hardstands will be allowed to revegetate naturally. Leaving the turbine foundations and hardstands in-situ is considered a more environmentally prudent option, as to remove that volume of reinforced concrete and stone from the ground could result in potentially needless environment nuisances such as noise, dust and/or vibration.*
- *The site roadways will be in use for additional purposes to the operation of the wind farm (e.g. for forest/agricultural access) by the time the decommissioning of the project is to commence, and therefore it is more appropriate to leave the site roads in situ for future use.*

As explained in Section 2.11 of Chapter 2- Project Description, An outline decommissioning plan is contained within the CEMP (refer to Section 15, Appendix 2-4). A detailed decommissioning plan will be agreed in advance of works taking place with Leitrim County Council and any other relevant authorities.

2.1.1.27 Construction Haul Routes and Access Strategy

Section 8.3 of the Leitrim County Council Planning Report (pages 32–33), which summarises the Roads Authority report contained in Appendix I (pages 90–93), raises a number of matters concerning the proposed construction haul routes. In particular, the Roads Authority expresses a preference for construction traffic to approach the site from the south via the N16, raises concerns regarding the use of the L6180-0 at Skreeny, and seeks clarification regarding the private haul route between the L6184-0 and L6184-2. It also seeks clarification of the proposed use of the L4135 for quarry and concrete deliveries, including whether an alternative route could be identified, and recommends consultation with TII.

The proposed construction haul routes were selected following consideration of the principal national, regional and local road network, potential quarry sources, sensitive receptors and consultation with Leitrim County Council. As described in Chapter 16 of the EIAR and the submitted Traffic Management Plan (TMP), the routes use the national and regional road

network for as much of each journey as feasible, with local roads used for the final approach to the site. Construction traffic may therefore arrive via the N15 and N16, the R280, R282 and R290, and the identified local-road approaches, including the L6180/L61801, L6184 and L61844. The proposed wider construction haul routes are shown in Figure 16-5 of Chapter 16.

The Council's preference that all construction traffic approach from the south via the N16 is noted. However, the submitted assessment does not rely exclusively on a southern approach. The L6180 forms part of the proposed construction route and its use has been included in the assessment and traffic-management proposals. HGVs will be directed away from sensitive areas, including schools, urban centres and densely populated areas, where reasonably practicable. The final delivery arrangements will be controlled through the detailed construction-stage TMP in consultation with Leitrim County Council.

The Roads Authority report in Appendix I, page 90, seeks clarification regarding the private section of the proposed haul route between the L6184-0 and L6184-2 and whether this route will be constructed and used to minimise construction traffic on the intervening public-road section.

The relationship between the public-road network and the internal site tracks is shown in Figure 16-4, Site Entrances and Temporary Crossing Points. The figure legend expressly differentiates the sections identified as "Public", "Existing Private" and "Proposed Private". These classifications reflect the public and private portions of the network identified by Leitrim County Council during the pre-planning process.

Sections 16.4.1 and 16.4.3 of EIAR Chapter 16 explain that construction traffic will travel along the L6184 to the relevant site entrance and will then continue within private lands using existing private tracks to be upgraded and proposed private internal tracks. The private section referred to by the Roads Authority comprises the existing private tracks to be upgraded and the proposed private internal tracks shown in Figure 16-4. The proposed private tracks are internal wind farm infrastructure serving the turbines and associated works; they do not constitute a separate public road or public-road bypass. EIAR Figures 16-4 and 16-5, read together, therefore identify the transition from the public-road haul routes to the existing and proposed private site tracks.

EIAR Chapter 16 identifies the L4135 as one of the potential quarry haul routes. The final source of quarry and concrete materials will depend on the suppliers appointed by the construction contractor. Consequently, use of the L4135 will arise only where required by the selected source and the agreed delivery route. The use of the three on-site borrow pits and existing forestry-track infrastructure will materially reduce the volume of stone and aggregate requiring importation.

Once the suppliers are known, the final quarry and concrete delivery routes will be confirmed through the detailed design stage TMP and agreed with Leitrim County Council. National and regional roads will be used for as much of each journey as feasible. Any alternative to the L4135 will be considered having regard to the selected quarry, the condition and suitability of the complete route and the presence of sensitive receptors.

The submitted documentation also assesses the N16, R282 and Park Road corridor used by construction traffic. Traffic surveys were undertaken at the Park Road/N16 junction and at the

R282 Castle View/Park Road/N16 junction. The forecast percentage increases are presented in Chapter 16, and the R282 Castle View/Park Road/N16 junction was subject to detailed PICADY assessment. The assessment found that the junction would operate at Level of Service A during both assessed peak periods, with maximum RFC values of 0.16 during the AM peak and 0.21 during the PM peak, as presented in Tables 16-13 and 16-14 of Chapter 16 of the EIAR. The surveyed and modelled information therefore demonstrates that the assessed route can accommodate the forecast construction traffic, subject to the proposed traffic-management and road-protection measures.

TII was consulted as part of the EIAR scoping process. The consultation response is summarised in Table 16-1 of Chapter 16 and requested consideration of construction traffic, haul routes and effects on the national road network and its junctions. These matters were subsequently considered in Chapter 16 and the submitted TMP. Detailed temporary traffic-management arrangements affecting the public-road network will be prepared by the appointed contractor and agreed with the relevant road authority and An Garda Síochána before the applicable works or deliveries commence.

2.1.1.28 Protection, Improvement and Reinstatement of the Local Road Network

Section 8.3 of the Leitrim County Council Planning Report (pages 32–33), which summarises the Roads Authority report contained in Appendix I (pages 90–93), raises concerns regarding the width, edge condition and verge support of the local roads proposed to carry construction traffic. It also seeks clarification regarding the construction and permanency of the proposed junction modifications and passing bays, the protection of roadside drainage and culverts, the upkeep of the public-road network, the maintenance of access to private dwellings and the reinstatement of affected roads following construction.

The proposed approach combines targeted physical improvements with condition surveys, monitoring, maintenance and reinstatement, rather than continuous widening of the affected local roads.

As set out in Section 16.4.2 of Chapter 16 of the EIAR, eight passing bays are proposed along the L6184. The passing bays are provided on sections where the existing carriageway width was identified as 5.3 m or less, as an alternative to full-length carriageway widening. This approach is consistent with Section 9.9 of TII Publication DN-GEO-03031, Rural Road Link Design, which provides that passing bays may be appropriate on two-way regional or local roads with an existing carriageway width of 5.3 m or less.

The passing bays will facilitate opposing vehicle movements and reduce the potential for construction vehicles to overrun unsupported road edges or adjoining verges. Their locations and geometric arrangements are shown on submitted Drawings 10955-2080 to 10955-2082.

The seven permanent site entrances identified in Section 16.4.1 of Chapter 16 will remain following decommissioning for forestry and agricultural use. Temporary site accesses, temporary road crossings and temporary turbine-delivery accommodation areas will be used only for their specified purposes and will be closed or reinstated when they are no longer required, in accordance with the submitted drawings and the applicable landowner and road-authority agreements.



The temporary overrun area associated with Permanent Site Access 2 will be physically closed whenever it is not required for turbine deliveries, as accepted in the RSA Feedback Form under Item 4.1.5. The final treatment of the temporary junction modifications, including the proposed bollards and boundary fencing, will be implemented in accordance with the submitted drawings.

Prior to commencement of construction, a condition survey will be undertaken along the public roads forming the approaches to the site. The survey will record the existing condition of the carriageway, road edges, verges, drainage features, culverts and associated road infrastructure. Its timing and extent will be agreed with Leitrim County Council and will establish the baseline against which the condition of the road network can be monitored during and following construction.

Any localised pavement strengthening, road-edge support or remedial works identified as necessary through the pre-construction inspection and detailed construction planning will be agreed with Leitrim County Council before the affected sections are used by construction traffic. The design of any such works will take account of the existing road construction, carriageway and verge width, road-edge condition, drainage arrangements and anticipated construction vehicle loading.

Existing open drains and culverts will be maintained in an operational condition throughout construction. Construction vehicles will be managed to avoid compaction or obstruction of roadside drainage. Works undertaken at widened accesses, passing bays or other modified road sections will maintain unimpeded drainage flows, and any required culvert extension or protection will be incorporated into the detailed civil design. Drainage features will be included in the routine route inspections, and any obstruction or construction-related damage will be rectified promptly.

Throughout construction, the haul routes will be regularly inspected and maintained in a safe and serviceable condition. Any deterioration or damage attributable to construction traffic will be repaired by the developer in consultation with Leitrim County Council. The TMP also provides for road cleaning, control of mud and debris, off-road waiting and queuing, and temporary traffic control where required.

Safe and unimpeded access to adjoining dwellings, farms and other properties will be maintained throughout the works. Where a temporary restriction is unavoidable, affected residents and road users will be consulted in advance and appropriate access arrangements will be agreed.

Following completion of construction, a post-construction condition survey will be undertaken to identify any remedial measures required. Damage attributable to the works will be repaired at the applicant's expense, and affected sections of the public-road network will be restored to at least their pre-construction condition. The timing, scope and standard of the reinstatement works will be agreed with Leitrim County Council.

2.1.1.29 Peak Construction HGV Movements

Section 8.3 of the Leitrim County Council Planning Report identifies an apparent discrepancy between the construction HGV forecasts presented in Chapter 16 of the EIAR and the submitted Traffic Management Plan. In particular, the Roads Authority notes references to 43



and 29 one-way HGV movements per day and seeks clarification of the correct peak construction traffic forecast.

The correct forecast for the peak construction period is 29 HGV arrivals and 29 corresponding departures per day, equivalent to 58 two-way HGV movements per day. This is the figure upon which the traffic impact assessment presented in Chapter 16 of the EIAR is based.

The forecast was derived from the detailed construction programme and is presented in Table 16-7 and Figure 16-7 of Chapter 16. Both identify a maximum of 29 one-way HGV arrivals per day during the peak construction period, excluding turbine-foundation concrete pours. Table 16-10 carries this programme-derived forecast into the assessed peak construction scenario, identifying 29 HGVs entering and 29 leaving the site per day.

As explained in Section 16.7.7 of Chapter 16, the assessment assumes that 20% of daily construction traffic would travel during the identified network peak hours. Applying this assumption to the 29 daily HGV arrivals and departures results, following rounding, in six HGVs entering and six leaving during the assessed peak hour. These are the HGV movements used in the traffic-impact and junction assessments.

The reference in the narrative of Section 16.6, repeated in the submitted TMP, to 43 one-way HGV movements is a typographical error. It should read 29 HGV arrivals per day. The detailed construction programme, trip-generation tables, percentage-impact assessment and junction modelling are based on the correct figure of 29 HGV arrivals and 29 departures per day.

2.1.1.30 Turbine-Foundation Concrete Pours

Section 8.3 of the Leitrim County Council Planning Report (page 33) raises concerns regarding the traffic generated by the 14 turbine-foundation concrete pours, comprising approximately 460 two-way HGV movements per pour day. The Planning Authority seeks clarification of how this traffic has been assessed in relation to local-road capacity, disruption to residents, school-time movements and the proposed peak-hour restrictions on HGV traffic.

Each turbine foundation will require a continuous concrete pour undertaken on one day. Concrete-pour traffic will therefore occur on only 14 non-consecutive days over the approximately 24-month construction period and will not represent normal daily construction traffic.

As stated under Concrete Pour Volumes in Section 16.6.1.1 of Chapter 16 and reiterated in the TMP, each pour day is conservatively forecast to generate approximately 230 concrete-truck arrivals and 230 corresponding departures, equivalent to approximately 460 two-way HGV movements over the full day. Based on the anticipated working period, this averages approximately 19 arrivals and 19 departures per hour, equivalent to 38 two-way HGV movements per hour.

The traffic surveys presented in Chapter 16 demonstrate that existing traffic volumes on the assessed road network are low. The highest forecast baseline approach flow during the assessed peak hours was 701 vehicles at the Upper Main Street/N16 junction, with lower volumes recorded at the other assessed junctions.

Considering the retained construction staff traffic together with the forecast concrete-pour HGV traffic, Junctions 1 to 3 would remain below the 10% screening threshold in the TII Traffic and Transport Assessment Guidelines. This threshold is used to determine whether detailed junction assessment is required; it is not a junction-capacity limit.

Junction 4 exceeded the applicable assessment threshold during the normal peak construction scenario and was therefore subject to detailed PICADY modelling. The assessment found that it would operate at Level of Service A during both assessed peak periods, with maximum RFC values of 0.16 in the AM peak and 0.21 in the PM peak.

Level of Service A represents free-flow operating conditions with very low vehicle delay and substantial reserve capacity.

The peak construction scenario assessed in EIAR Table 16-10 comprises 68 two-way vehicle movements during the peak hour, including 12 HGV movements. During a concrete pour, these 12 HGV movements would be replaced by approximately 38 concrete-truck movements, resulting in approximately 94 two-way vehicle movements during the peak hour. This represents only 26 additional movements compared with the assessed scenario. Having regard to this limited increase, the Level of Service A operation and the low maximum RFC values, the temporary concrete-pour traffic will not materially affect the operational performance of Junction 4.

As set out in Section 16.6.1.1 of EIAR Chapter 16, on concrete-pour days, all non-essential construction HGV deliveries will be rescheduled. Only deliveries essential to the continuation of the works will operate alongside the concrete deliveries. Deliveries will be programmed in advance as a controlled sequence, and vehicles will wait within the site rather than queue on the public road network.

The HGV peak-hour restrictions contained in Chapter 16 and the TMP will apply unless an alteration is agreed in writing with Leitrim County Council. Where the continuous nature of a concrete pour requires working or vehicle movements outside the standard construction hours, this will also be agreed in advance. Leitrim County Council and the local community will be consulted in advance of the pours, and the developer's representative and out-of-hours contact details will be provided.

As noted in Section 10 of the Construction and Environmental Management Plan, any complaints with regards to construction phase traffic will be recorded in the site complaints log. All complaints will be followed up and resolved in so far as is practicable by the Project Developer.

2.1.1.31 Forestry Felling and Borrow-Pit Traffic

Traffic associated with project-related forestry felling and vegetation clearance is included in the construction programme calculations. Approximately 62.7 hectares of forestry will be felled, producing an estimated 23,387 m³ of material. Based on approximately 40 m³ per truck, this equates to approximately 585 off-site timber loads, comprising 585 HGV arrivals and 585 corresponding departures distributed across the felling programme.

The 585 loads represent the total number of loads over the forestry-felling programme; they are not a daily figure. Table 16-7 and Figure 16-7 of Chapter 16 present forecast one-way HGV

movements per working day during each month of the construction programme. Forestry movements are distributed across the activities involving felling and vegetation clearance, including the site compounds and accesses, internal roads and turbine hardstands, and are incorporated into the programme-derived daily HGV forecasts. They are not an additional traffic stream to be added to the assessed peak of 29 HGV arrivals and 29 departures per day.

The three proposed borrow pits will reduce external traffic because suitable excavated stone will be used within the site instead of being imported from external quarries. Movements between the borrow pits and the construction areas will primarily take place on the internal site-track network and will not generate additional traffic on the public road network.

Public-road movements associated with the construction and operation of the borrow pits are included within the applicable construction activities in the programme. Accordingly, the effects of borrow-pit use are reflected in the construction traffic assessment rather than constituting a separate unassessed traffic demand.

The construction traffic-management measures contained in Chapter 16 and the TMP will apply to all construction HGV traffic. These include use of the designated haul routes, advance scheduling, restrictions during the identified weekday peak periods unless otherwise agreed, avoidance of sensitive locations where feasible, off-road waiting and queuing, road cleaning, route inspection and maintenance, and liaison with Leitrim County Council and other relevant stakeholders.

2.1.1.32 Site Accesses, Borrow Pits and Road Safety Audit

Section 8.3 of the Leitrim County Council Planning Report (page 39), with the matter reiterated in Section 23 (page 84), raises concerns as to whether the recommendations of the Stage 1 Road Safety Audit were incorporated into the submitted access drawings. It also questions whether swept-path assessments of the proposed junctions were available to inform the RSA, noting that the submitted Turbine Delivery Route swept-path report bears a later date than the RSA.

The proposed development will be served by seven permanent site entrances, two temporary site accesses and two temporary road crossings, as described in Section 16.4.1 and illustrated in Figure 16-4 of Chapter 16 of the EIAR.

Swept-path assessments for the maximum-legal articulated construction vehicle are addressed in Section 16.9.2.3 – Junction Swept Path Analysis and shown on Drawings 10955-2070 to 10955-2078.

The Stage 1 Road Safety Audit is addressed in Section 16.9.2.4 of Chapter 16 and included in Appendix 16-2 of the EIAR.

The permanent entrances have been designed having regard to TII Publication DN-GEO-03060, Geometric Design of Junctions. As set out in Section 16.9.2.2 – Junction Visibility, visibility splays of 3.0 m by 90 m are provided at the proposed accesses onto the L61801, L6184 and L61844. The submitted Traffic Management Plan (TMP) requires the visibility splays to be established before the relevant accesses are brought into use. Existing vegetation will be trimmed where necessary, and the sightlines will be maintained in an unobstructed condition throughout construction.

The submitted access drawings, Stage 1 Road Safety Audit (RSA), completed RSA Feedback Form, updated post-RSA planning drawings and swept-path assessments should be read as a coordinated package. The RSA assessed the road-safety aspects of the proposed site accesses, including geometry, visibility, gradients, drainage and the management of temporary overrun areas. The access drawings were subsequently updated and included in the submitted planning pack.

The Turbine Delivery Route (TDR) assessment constitutes a separate technical assessment from the Stage 1 RSA. The turbine-related matters identified in the RSA included potential interaction between vehicle oversail or overrun areas and field boundaries or gates under Item 4.1.1, and the need to physically close the temporary overrun area when it is not required for turbine deliveries under Item 4.1.5. These matters were accepted in the completed RSA Feedback Form.

The TDR swept-path assessment was completed and circulated in November 2025, before completion of the Stage 1 RSA in January 2026. The April 2026 date shown on the submitted TDR report reflects subsequent cosmetic updates only and does not represent the date on which the substantive assessment was completed. The TDR assessment and associated swept-path drawings identify all locations where oversail, overrun or other temporary accommodation measures are required to accommodate the turbine-delivery vehicle. The cosmetic updates did not alter the assessment findings or identify any further changes required to the RSA findings or proposed site-access arrangements.

Borrow-Pit Access Arrangements

The three borrow pits are located within the development site and will be connected to the internal track network. Their use will reduce the quantity of aggregate imported from external quarries and the associated HGV traffic on the public road network.

Movements between the borrow pits and the construction areas will primarily take place on internal tracks. Access from the public road network will be through the relevant site entrances identified in Section 16.4.1 and Figure 16-4 of Chapter 16.

Permanent Site Access 2 comprises the modification of an existing forestry access onto the L6184. It will serve the Proposed Development, including Borrow Pit 2, during construction and will subsequently remain available for forestry and agricultural access.

The permanent site entrances will remain for their identified forestry and agricultural functions. Temporary access features and other works required solely during construction will be closed or reinstated when they are no longer required. Detailed restoration of the borrow pits is addressed in the project description and the relevant construction and environmental documentation rather than in the traffic assessment.

Permanent Site Access 2 and Temporary Overrun Area

The temporary overrun area adjoining Permanent Site Access 2 is required solely to accommodate the swept path of turbine-delivery vehicles. It is not intended to operate as a separate or unrestricted access to the proposed development.

RSA Item 4.1.5 identified a concern that the shallow angle of the temporary overrun area could encourage its use by public vehicles or general construction traffic. The Audit Team recommended that the area be physically closed whenever it is not required for turbine deliveries.

The Applicant accepted both the problem and recommendation in the completed RSA Feedback Form. Accordingly, the temporary overrun area will only be opened for planned turbine deliveries undertaken under controlled traffic-management arrangements and will be physically closed at all other times.

The permanent access will operate with the visibility, dwell-area and vehicle-tracking arrangements shown in the submitted documentation. Construction vehicles will be managed so that waiting and queuing take place within the site and not on the L6184.

Temporary Cherrybrook Access and Road Crossings

Temporary Site Access 1 at Cherrybrook is identified in Figure 16-4 and the submitted drawings as a turbine-delivery-only access. The route from Cherrybrook crosses the identified public-road section at the two temporary road crossings and then continues along existing and proposed private tracks.

Figure 16-4 distinguishes the public, existing-private and proposed-private sections of this route. The construction type, width and drainage arrangements for the internal tracks are shown on the relevant planning drawings, including Drawing 10955-2033, while the entrance and crossing arrangements are shown on the submitted access drawings.

Temporary turbine-delivery-only accesses will remain closed to unrestricted general construction traffic. During planned turbine deliveries, Traffic Management Operatives will control access and egress, temporary traffic-control measures will be implemented where necessary, and the convoy will be accompanied by a Garda escort.

Visibility at Site Accesses 5 and 6

RSA Item 4.2.3 identified concerns regarding vertical visibility at Site Accesses 5 and 6, having regard to the vertical alignment and hill brow on the adjoining public road. The completed RSA Feedback Form records the Applicant's acceptance of both the problem and the recommended measure under Item 4.2.3. In practical terms, this requires an unobstructed line of sight from vehicles exiting Site Accesses 5 and 6 to approaching traffic over the hill brow throughout the required 90 m visibility distance.

RSA Item 4.2.4 separately concerned the acute angle of Site Access 6. The minor realignment of Site Access 6 responds to Item 4.2.4 and is not presented as the sole response to the vertical-visibility concern under Item 4.2.3.

The final access arrangements must therefore provide both the horizontal visibility splays shown on the planning drawings and the vertical visibility accepted under RSA Item 4.2.3. The visibility areas will be established before the accesses are brought into use and maintained throughout construction and operation.

2.1.1.33 Turbine Delivery Route and Temporary Works in Manorhamilton

The submitted Turbine Delivery Route (TDR) report assesses the movement of the turbine-delivery vehicle along the complete route and includes the relevant vehicle swept-path drawings. The swept-path drawings clearly identify the vehicle envelope and all associated overrun and oversail areas at constrained locations. Existing features, including street furniture, trees, walls and roadside boundaries, are also shown, thereby allowing the relationship between the required swept path and existing roadside features to be understood.

The TDR report is the principal assessment of the space required by the turbine-delivery vehicles. It should be read together with the Stage 1 Road Safety Audit (RSA), completed RSA Feedback Form, updated site-access drawings and the traffic-management measures contained in the submitted Traffic Management Plan (TMP).

The RSA and TDR report have separate technical purposes and geographical scopes. The RSA considers road-safety matters associated with the proposed access arrangements at the relevant interfaces between the site and the public-road network, together with junctions within the site used by general construction traffic, while the TDR report establishes whether the turbine-delivery vehicle can negotiate the delivery route and identifies the physical accommodation required. There is no physical overlap between the areas assessed in the TDR report and those considered in the RSA. Furthermore, the substantive TDR assessment was completed and circulated in November 2025; the April 2026 date shown on the submitted report reflects cosmetic updates only. The timing of those updates therefore has no bearing on the completeness of the Stage 1 RSA.

Temporary Parking Controls

The parked vehicles identified by Leitrim County Council in the vicinity of Gurns Pub, along New Line, at the Methodist Church and between the bus stop and Bee Park Community Centre represent temporary operational constraints rather than permanent physical constraints on the turbine-delivery route.

The swept-path assessment establishes the clear space required to accommodate the turbine-delivery vehicle. Turbine-delivery vehicles will not proceed through Manorhamilton while parked vehicles or other temporary obstructions occupy the required swept-path envelope.

Approximately 23 to 38 delivery events are anticipated. These will take place outside normal construction hours, primarily during the night, when general traffic activity and demand for on-street parking are lower. Each convoy will operate under temporary traffic-management arrangements and will be accompanied by a Garda escort.

The submitted TMP provides that parking will not be permitted along the AIL route where parked vehicles or other activities would obstruct the passage of the turbine-delivery vehicles. Prior to commencement of the deliveries, the appointed haulage contractor will consult and agree with Leitrim County Council and An Garda Síochána the precise locations and periods during which temporary parking restrictions will be required.

The parking restrictions will apply only for the time necessary to facilitate each delivery and will not comprise the permanent removal of parking along New Line.

The delivery-specific traffic-management arrangements will include:

- Advance inspection of the route to confirm that the required swept path is unobstructed.
- Advance identification of the areas that must remain clear.
- Consultation with Leitrim County Council.
- Notification of affected residents, businesses and other road users.
- Temporary parking restrictions and associated signage.
- Traffic Management Operatives at locations requiring active control.
- Garda escort of the turbine-delivery convoy.

Removal of temporary parking restrictions after the convoy has passed.

The applicant and appointed haulage contractor will be responsible for preparing and implementing these arrangements in consultation with Leitrim County Council and An Garda Síochána.

Physical Accommodation and Public-Realm Works

The submitted TDR report and associated swept-path drawings, together with Section 16.8.2.4 and Table 16-16 of Chapter 16, identify the physical envelope required to accommodate the turbine-delivery vehicle and the potential accommodations at each constrained location. These include, where necessary, temporary removal or adjustment of signs and street furniture, localised road-edge strengthening, vegetation pruning, temporary oversailing and other localised measures.

The detailed delivery arrangements will be reviewed before the delivery programme begins to confirm the condition of the route and the continued availability of the swept path. Any temporary traffic-management or public-realm measures will be agreed with the relevant road authority before implementation.

The turbine-delivery route from the N16 at Cherrybrook to the proposed temporary road crossings is included in the submitted TDR assessment and associated vehicle swept-path drawings. The TDR documentation therefore identifies the physical modifications required to accommodate the turbine-delivery vehicles along this section. The TDR documentation shows the physical envelope of the turbine-delivery vehicle and the associated overrun and oversail areas along this section. Any TDR accommodation works outside the red-line boundary that require planning permission will be subject to a separate planning application.

St Clare's Church and Presbytery

The submitted TDR report and associated swept-path drawings show the vehicle swept path along the turbine-delivery route through Manorhamilton, including in the vicinity of St Clare's Church and Presbytery. The assessment shows the extent of the required vehicle overrun and oversail areas and the locations of existing infrastructure and other roadside features that may interact with the swept path.

The overrun and oversail areas identified by the swept-path assessment were included within the planning application documentation and form part of the overall assessment of the turbine-delivery route. The accommodations required will be limited to those necessary to provide the

identified vehicle swept path and will be implemented in accordance with the submitted documentation and the agreed turbine-delivery traffic-management arrangements. Any accommodation works requiring planning permission will be subject to a separate planning application.

Before the turbine deliveries commence, the route will be inspected to confirm the continued availability of the assessed swept path and the precise extent of any temporary accommodation required. The implementation arrangements will be coordinated in advance with Leitrim County Council, An Garda Síochána and the relevant affected landowners.

2.1.1.34 Noise Queries- Planner's Report

The main planner's report from Leitrim County Council makes the following comment:

"The Environment Department outlined a need for clarification with regard to the location of each of the noise sensitive locations used for measurement purposes. The elevation of each location, the distance in metres from the wind turbine site boundary and the distance to the nearest turbine(s) should be clearly provided. Noise Monitoring Locations NML-10, NML-2, NML-4 and NML-5 (Figure 9.2) were not the nearest that would be considered the nearest sensitive receptors to some of the turbines. It appears there is a dwelling west of Turbines T11 and T12 which the noise monitoring assessment did not take into consideration. The Commission shall satisfy itself that the submitted Noise Impact Assessment adequately assesses the likely impact on residential amenity of the nearest noise sensitive locations by reason of noise."

The coordinates of the noise survey locations were provided in the Appendix 9-3 of the EIAR; this appendix has been revised and updated in response to third-party submission (see Appendix B herein). The selected locations are considered to be representative of the range of noise environments surrounding the proposed development.

At noise-sensitive locations other than those where noise surveys were carried out, the noise criteria applied were those of the quietest noise survey location, as stated in Section 9.5.2.1 of the EIAR.

2.1.1.35 Report from Environmental Department

In Annex II of the report from the Environmental Department the following points are made. Responses to each comment, grouped into themes, are presented below:

2.1.1.35.1 Background Noise Survey Locations

Clarify by providing a clearly labelled map to show each of the noise sensitive locations, noise measurement locations. The elevation of each location, the distance in metres from the wind turbine site boundary and the distance to the nearest turbine(s) should be clearly provided.

Clarify with regard to the Noise Monitoring Locations Map (Figure 9-2) NML-10, NML-2, NML-4 and NML-5 were not located between the nearest proposed turbine and the nearest dwelling that would be considered the Nearest Sensitive Receptor. Also from the map it appears there is a dwelling West of Turbines T11 and T12 which the noise monitoring assessment did not take into consideration.

The revised Appendix 9-3 (see Appendix B herein) presents an updated figure showing noise survey locations and also coordinates in Table 2.3 therein. The revised coordinates for the noise survey locations are also presented in Table 2.2 and in Figure 2.1.

There are corrections to the dwelling references (i.e. references H0010 etc.) associated with each NML and to the coordinates of certain NMLs, as follows:

- Minor corrections to the coordinates of NMLs 1, 2, 5 and 9;
- At NML-9, the specific dwelling has been corrected;
- The dwelling references attached to noise survey locations NML-10 and NML-11 were interchanged in the EIAR, and the specific house at NML-11 has been corrected.

In Table 9-6 of the Chapter 9 of the EIAR, the dwelling references were incorrect, they pertain to a previous numbering system. The updated Table 2.2 below replaces both the Table 9.6 of the main chapter and the Table 2-1 in Appendix 9-3 Background Noise Survey.

The measured noise levels shown in Table 9-12 in the EIAR and the graphed and tabulated results for each NML in Appendix 9-3 remain correct.

The above corrections do not alter the findings of the assessment: Section 9.5.2.1 in the EIAR presents noise criteria based on each of the prevailing background noise level measures at the eleven background noise survey locations – it is noted that the criteria set at NML-4 are the lowest at any NML. Even if the predicted noise levels are compared to these lowest criteria, no exceedances of the noise criteria are found.

Distances from the noise survey locations to the turbines or site boundaries are not relevant to the measured noise levels. The range of prevailing background noise levels measured at the eleven locations is considered representative of the noise environment in the vicinity of the proposed project.

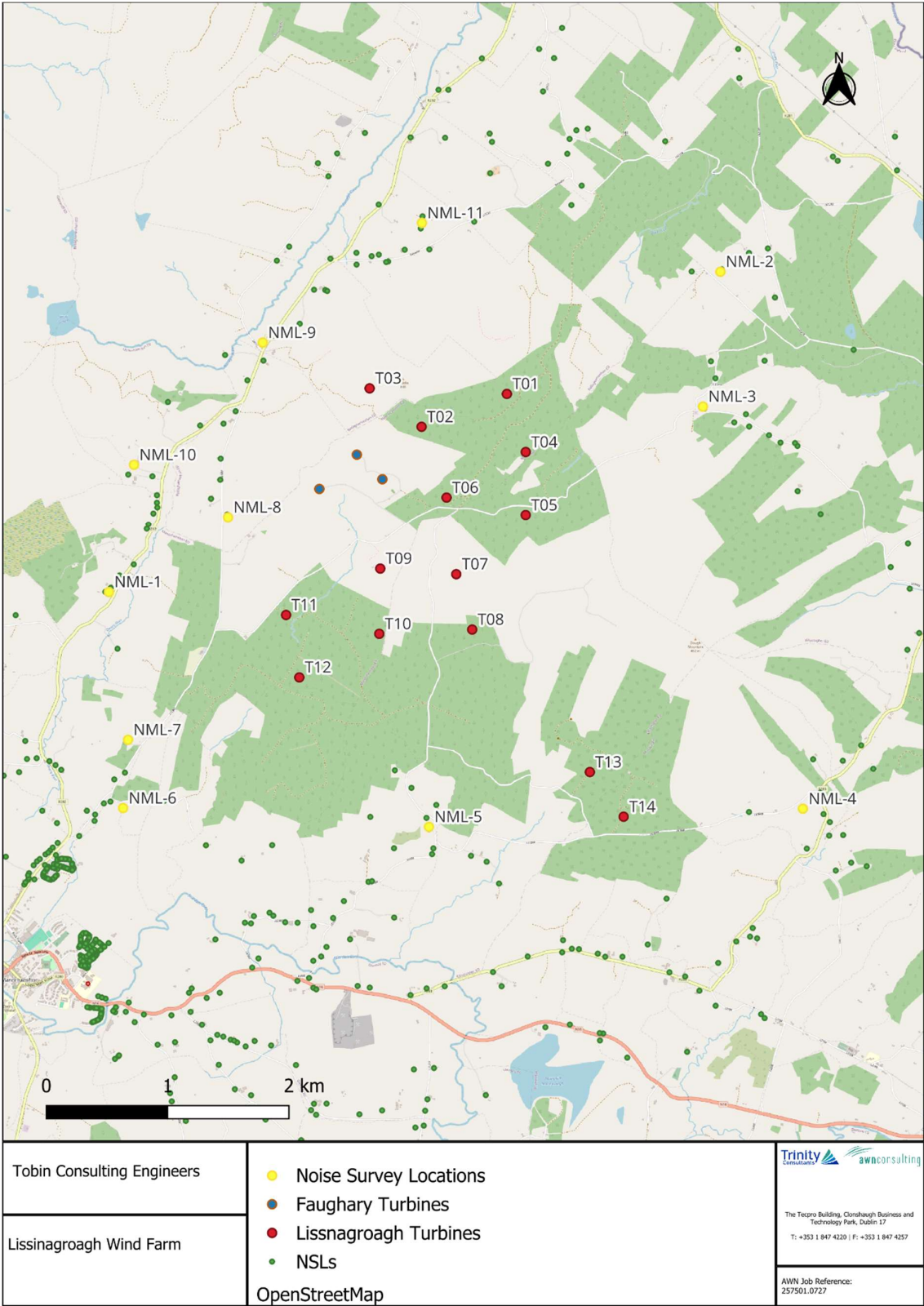
Distances from noise-sensitive locations to turbines however form inputs to the wind turbine noise modelling and thus these distances are taken into account in the assessment.

In relation to the “dwelling West of Turbines T11 and T12” referred to in the Planner’s Report, the nearest such dwelling is H0448 at approximately 1.4 km west of T11 which is included in the assessment. There is a building at 360 m to the west of T11; there was no Eircode found at that location and it is understood not to be a dwelling, therefore it is not included in the set of noise-sensitive receptors.

Table 2-2: Revised Noise Survey Location Coordinates

Noise Reference	Survey	Location	Coordinates	
			Easting	Northing
NML-1 (H0677)			589316	842690
NML-2 (H0842)			594356	845338
NML-3 (H0920)			594212	844226
NML-4 (H0565)			595036	840903
NML-5 (H0475)			591954	840753
NML-6 (H1487)			589433	840908
NML-7 (H0857)			589474	841471
NML-8 (H0046)			590298	841471
NML-9 (H0358)			590584	844754
NML-10 (H0759)			589523	843746
NML-11 (H1198)			591896	845741

Figure 2-1: Revised Noise Survey Locations



2.1.1.35.1.2 Noise-Piling and Blasting

Clarify if piling, explosives or blasting are required; such activities could void noise modelling and require remodelling.

Section 9.6.2 of the EIAR states 'Construction noise prediction calculations have been conducted using the assessment methodology outlined and discussed in Sections 9.4.3 The source noise levels referred to in this section are indicative of the type of plant items and activities associated with the construction of the proposed project'. The assessment of construction noise has been undertaken based on the proposed construction activities. The type of plant and activities may change during the construction stage however the assessment findings of no significant effect remain valid unless there is a significant increase in the construction noise emissions; notwithstanding this, appropriate construction noise thresholds are proposed in Section 9.3.2 of the EIAR.

In addition to this the following statement is contained in Section 12.7.2 of the EIAR 'To ameliorate any potential noise impacts that may present during the construction phase, a schedule of noise control measures has been formulated in accordance with best practice guidance, and the contract documents will require the Contractor to implement these measures. These are outlined in the Construction and Environmental Management Plan (CEMP) that has been prepared for the proposed project (see Appendix 2-4).

Blasting is not proposed as part of the construction works for the proposed project.

2.1.1.35.1.3 Commissioning Noise Survey

Prior to the commissioning of the wind farm, the operator shall submit a Noise Compliance Monitoring Programme (NCMP) to the planning authority for written agreement. The NCMP will include a detailed methodology for all noise measurements, including frequency or monitoring procedures for recording results and a protocol for managing complaints.

A full noise survey shall be submitted to the Local Authority within six months of the wind farm being commissioned in order to verify noise conditions applied to this development.

Commitments to the preparation of and NCMP and the completion of a commissioning noise survey are presented in Section 9.7.4.1 in the EIAR.

2.1.1.35.1.4 Wind Turbine Noise Criteria

Following commission the following noise limits should apply:

1. 40 dB $L_{A90,10min}$ for daytime in quiet environments with background noise below 30 dB $L_{A90,10min}$;
2. 45 dB $L_{A90,10min}$ for daytime in other environments or 5 dB above background noise, whichever is higher,
3. 43 dB $L_{A90,10min}$ during night-time periods. These criteria were assigned to representative receptors based on the measured background noise curves.

These criteria are in line with those adopted in Section 9.5.2 of the EIAR.



2.1.1.35.1.5 Noise Complaints

Where a noise problem persists at any affected property that additional environmental noise monitoring should be carried out at the wind farm operator's expense. The wind farm operator is required to liaise directly with the affected parties, the affected members of the community and communicate with all affected parties and should appoint an independent noise monitoring consultant to conduct noise monitoring or other environmental monitoring as required at the site for the lifetime of the project and be required to implement all the actions of the relevant independent consultant.

Noise Complaints During Operational Stage

It is recommended and should be mandatory in the planning conditions in any grant of planning permission for the proposed wind farm that where a noise problem persists at any affected property that additional environmental noise monitoring should be carried out at the wind farm operator's expense.

The wind farm operator should be required to liaise directly with the affected parties, the affected members of the community and communicate with all affected parties and should appoint an independent noise monitoring consultant to conduct noise monitoring or other environmental monitoring as required at the site for the lifetime of the project and be required to implement all the actions of the relevant independent consultant which may include "switching off " the affected noise/nuisance source if no other satisfactory, practical solution can be agreed; and all of this will be at the wind farm operator's expense.

Section 9.7.4 of the EIAR presents a commitment to the preparation of a Noise Compliance Monitoring Programme which includes a Noise Management Protocol for responding to potential complaints about noise. A Noise Management Protocol has been provided in Appendix 9-10.

2.1.1.36 Blasting

Leitrim County Council notes EIAR Chapter 7 (Soils and Geology) reference to any moderately weathered/fractured rock and queried if blasting is proposed.

It should be noted that blasting is not proposed for this project.

2.1.1.37 Peat Stability

Leitrim County Council raised seven points regarding the Peat Stability Risk Assessment (PSRA).

Firstly we note that risks to peat stability at the site have been addressed in a conservative and systematic manner using the best available guidance on the topic, the Scottish Government's Best Practice guidelines⁸, supplemented with two phases of intrusive ground investigations, multiple site walkovers, assessment of LiDAR and other topographical data, reference to relevant literature, and comparable experience of the author.

⁸ Scottish Government. 2017. Peat Landslide Hazard and Risk Assessments, Best Practice Guide for Proposed Electricity Generation Developments – Second edition.



The site is partially underlain by peat deposits and the peat deposits at the site are drained and used for forestry or agriculture. Therefore the site is not covered in contiguous blanket bog. The peat present at the site has been extensively characterised in terms of depth and strength.

While the PSRA recommends construction stage detailed design, mitigation, and monitoring, the peat stability risk has been thoroughly addressed in the present design stage via extensive investigations to characterise the risk, micro-siting of infrastructure to avoid areas of higher risk and prefer areas of lower risk, and the demonstration through both qualitative and deterministic design assessments that the proposed development leads to a “negligible” or “low” peat stability hazard. Site-specific mitigations were developed for each design element following the micro-siting exercise described above, which was completed before the qualitative and deterministic assessments were carried out at the selected locations. At the construction stage of any complex project, further investigation, design, mitigation, and monitoring work is required to confirm the initial design. This is in line with all best practice and ensures that projects are developed with the most up to date information and input from appropriate specialists and experts.

The deterministic stability calculation is carried out in accordance with the Scottish Government Best Practice guidelines (2017) along with the limit state design principles described in Eurocode 7⁹, considered the best available guidance for the design of geotechnical engineering elements.

The Overdesign Factors (ODF) reported in the analysis are all greater than 1.0, which is the requirement of Eurocode 7 in terms of protecting against failure in the element under consideration. Any value over 1.0 indicates that the stability criteria have been met. In the analysis, the lowest Overdesign Factor was 1.1, relating to Case 2 (a 1.0 m surcharge placed on the in-situ peat) at Borrow Pit 1, Turbine 2, and Turbine 4. These are areas where the greatest depths of peat were encountered at the site. We note at this stage that the most onerous peat depths in these localities were considered as the characteristic peat depth for the failure surface analysed. In reality and given the haggly and discontinuous nature of the peat at the site, it is unlikely that a failure surface could mobilise the full depth of peat considered in the design due to the undulating nature of the interface between the peat and underlying mineral soil. Therefore, the analysis is inherently conservative in this regard. Further, the peat strength controlling failure has been assessed either as a conservative correlation with moisture content or corrected vane shear strength. The vane shear strength is reduced by 50% in accordance with guidance, and the lower strength derived is further reduced by a factor of 1.4 in accordance with Eurocode 7. In effect, the peat strength measured using the shear vane is reduced by a factor of 2.8 before it appears in calculations. We also note that Case 2 considers the temporary surcharge of 1.0 m of peat during the works, which is a short term case and conservative as peat will not be stored on site adjacent the works. Excess peat will be deposited beneath the existing ground level in borrow pits.

The Case 2 assessment, as noted above, considers a surcharge of 1.0 m of peat or 10kPa of applied loading and is conservative. This has been chosen based on industry best practice and

⁹ I.S. EN 1997-1:2005 + AC:2013. Geotechnical design - Part 1: General rules (Including Irish National Annex). Dublin, National Standards Authority of Ireland.

also encompasses loadings from construction plant during the project, with 10kPa being the recommended construction loading surcharge in documents such as BS 6031¹⁰ and CIRIA C760¹¹.

Leitrim County Council's submission refers to historical landslides within the locality. We have discussed and provided mapping of 5 nr shallow peat landslides in the vicinity of the site and 2 nr shallow scree slides to the south of the site but all outside the application boundary. No infrastructure is proposed to be sited on the exposed scree slopes near the site. We have investigated and taken account of the documented landslides in blanket peat in accordance with Section 3.2.2 of the Scottish Government guidelines. In particular, the qualitative peat stability risk assessment documented in Appendix 3 of the PSRA weighs the impact of "evidence of previous slips" in coming to an overall assessment and recommended mitigations for each element of the proposed development. Several proposed mitigations will directly reduce the risk of shallow peat slides, including the interception of upslope water flows, the use of founded roads rather than floated roads, and the use of rock berms or sheet piling for support of local excavations.

Leitrim County Council consider that the PSRA provides limited analysis of the wider effects arising from cumulative excavation, peat excavation and storage, hydrological modification, drainage interventions, borrow pit operations and changes in groundwater conditions across the peatland system as a whole. The peat stability risk register in Appendix 3 of the PSRA assesses each infrastructure element individually. The elements are dispersed across a site of approximately 1,434 ha draining to separate local catchments, and the peat between them is discontinuous and haggly, underlain by an undulating interface with the mineral soil. There is therefore no continuous body of peat through which the effects of one element could propagate to another, and no single failure surface on which multiple elements could act together. The peat handling proposals avoid aggregate loading of intact peat: peat will not be stored on site adjacent to the works, excavated peat is reinstated around turbine bases and excess peat will be deposited beneath existing ground level in the borrow pits. The mitigations described above — interception of upslope water flows, the use of founded rather than floated roads, and the use of rock berms or sheet piling to support local excavations — apply at every element rather than at selected locations.

Submissions from Leitrim County Council and the Department of Housing, Local Government and Heritage refer to the potential impacts on upland blanket bog dependent on peat stability within the Dough/Thur Mountains Natural Heritage Area (site code 002384) upslope of the proposed turbines, and to the protected downstream habitats and species of Lough Gill Special Area of Conservation (site code 001976) and Lough Melvin Special Area of Conservation (site code 000428). We acknowledge the submissions and the importance of protecting these areas and refer to the paragraph above to state that the peat stability risk assessment has led to mitigations being proposed which will avoid damage to these sites or other receptors outside the red line boundary of the proposed development.

¹⁰ BS 6031:2009. Code of practice for earthworks. London, British Standards Institution.

¹¹ CIRIA C760. 2017. Guidance on embedded retaining wall design.



In relation to hydrological modification, drainage interventions and changes in groundwater conditions, no deep drainage is proposed and there will be no long-term drying out of peat caused by the proposed development. The best practice range of 30 m for indirect impacts of drainage on peatland hydrology (NatureScot, 2023) is set out in the "Peat and Carbon" sub-section below; the effects of borrow pit operations on hydrogeology and hydrology are addressed in the "Borrow Pits/Blasting" sub-section; and groundwater conditions across the site are addressed in the "Hydrogeology and hydrology – groundwater flow" section. Surface water is the dominant flow regime in the area, with short travel paths through an extensive stream network, as described in the "Karst" sub-section. The individual element assessments, the peat handling and drainage proposals, and the mitigations applied at each location together result in a "low" or "negligible" residual peat stability risk at the scale of the peatland system as well as at the scale of the individual element.

Leitrim County Council refer to weather conditions and extremes of weather conditions. The PSRA has taken account of weather extremes, both in terms of drying out of the peat and of saturation of the peat, through the qualitative and deterministic analysis. The qualitative analysis considers landscape features in the vicinity of the design element when making assessments of hazard and the deterministic assessment explicitly assesses conditions of the extreme drying out and saturation. The variations in strength of the peat on site have been assessed via direct strength measurements, correlations with moisture content of the peat on site, and reference to applicable published and well-respected literature on the topic.

2.1.1.38 Hydrology

Leitrim County Council notes the wind farm infrastructure, including turbines, access roads, hardstandings, cable trenches and borrow pits, would require extensive excavation and drainage works within sensitive upland peatland catchments. They have concern that these works could alter natural surface water flow paths and disrupt the hydrological functioning of the bog system. The Council considered that the project relied heavily on mitigation measures rather than avoiding impacts in the first instance.

In response, the applicant would strongly contest the characterisation of the site as a sensitive upland peatland. The proposed wind farm is located on an area that is highly modified and does not function as a upland peatland. Peat is not present across the majority of the site. Where peat is present, it is drained and used for forestry or agriculture, therefore it is not active blanket bog.

As stated in Chapter 8 of the EIAR, walkover surveys of the proposed wind farm site were carried out in order to identify and avoid key hydrological features. The EIAR assessment recognises that the site is not functioning as an intact upland peatland hydrological system, but rather as a landscape characterised by a dense network of natural streams, forestry drains, agricultural drainage and modified catchments. Existing drainage associated with commercial forestry and agriculture is already a dominant control on site hydrology.

The primary mitigation is by design with all of the site data obtained from desktop review, surveys, site walkovers and site investigations used to inform a design that would naturally avoid key effects on surface water flow paths. The design/embedded measures will maintain existing drainage connectivity and minimise interference with natural watercourses including:

- Existing infrastructure has been located to utilise the current forestry road network wherever possible;
- Surface water crossings are predominantly designed as clear-span bridges;
- Bridge designs provide capacity greater than the 1-in-100-year flood flow;
- Installation of interceptor drains upslope of infrastructure to collect clean runoff and prevent interception of existing drainage networks;
- Use of swales, check dams and settlement ponds to attenuate runoff;
- Limiting the permanent development footprint to approximately 49 ha within a 1,096 ha site (around 4.4% of the site area), thereby restricting the extent of hydrological change.

2.1.1.39 Asbestos

Leitrim County Council raised one submission related to asbestos.

No asbestos will be utilised in the construction phase. The use of asbestos was banned in Ireland through S.I. No. 107/2000 – European Communities (Dangerous Substances and Preparations) (Marketing and Use) Regulations 2000 effective January 2000. Asbestos is not identified on site.

2.1.1.40 CEMP

A submission was made by Leitrim County Council in relation to the CEMP. Many of the queries are directly relevant to the measures highlighted in Chapter 8 and 9 of EIAR and EIAR Appendix 2-7 SWMP. Measures included in the SWMP will be incorporated into the CEMP as it forms part of the planning application. Any measures conditioned by An Coimisiún Pleanála will also be incorporated in to the CEMP. Where relevant the CEMP comments and the relevant sections are addressed in Table 2-3.

Table 2-3: Summary of CEMP comments

CEMP item - pg 114-115	Comment	Response
1	Dewatering measures are generic and not site specific. Detailed dewatering methodologies required for each turbine and borrow pit.	SWMP Section 2.3 Borrow Pits describes borrow pit water management using interceptor drains, silt bags, dedicated outlets and pumps. The SWMP/EIAR describes the general methodology for turbine foundation dewatering, including collection of groundwater in excavation sumps, pumping to settlement facilities, treatment of turbid water, and controlled discharge.
2	Borrow pit and turbine excavation dewatering should explicitly detail turbidity management, treatment trains, settlement sizing and emergency triggers.	SWMP Section 4 establishes a three-stage treatment train (filter media, settlement, vegetated swale). Section 4.2 provides settlement pond sizing. Sections 5.2.3, 5.2.6, Table 5-2 and Table 5-4 provide trigger values and Stop Works Authority provisions.
3	No specifications for silt fencing or settlement tanks	SWMP Section 4.1 describes silt fence use. SWMP Section 4.2 sizes turbine/hardstand settlement ponds at approximately 25m x 10m



	sized drainage/dewatering areas. to	(250m ³). Drawing 10955-2065 provides settlement pond and check dam details. Installing silt fencing requires proper placement based on the contours, fencing without long runs, heavy gauge (>130 g/m ²) porous filter fabric i.e. Terrastop™, posts with proper depth and spacing, and tight soil compaction on both sides of the silt fence.
4	Spill kits may be ineffective on unsealed surfaces; alternatives required.	CEMP EMP 3 Section 3.2 and SWMP Section 3.2 detail spill kits, absorbent mats, drip trays bowsters. Refuelling will be primarily undertaken at the compounds where hydrocarbon interceptors are located.
5	How will swales/open drains be protected from erosion, particularly on steep slopes?	SWMP Section 2.1 proposes swales and check dams. Section 4.1 requires hydroseeding, check dams, vegetation establishment, cross drains and maintenance inspections. Check dams are identified and proposed. Drawing 10955-2065 provides details. Hessian cloth is typically used on steep slopes- i.e. >1:3. These slopes do not occur on site.
6	Aquatic buffer zones should be marked prior to works.	SWMP Section 2.4 Forestry Drainage references a 25m stream buffer. SWMP Section 2.6 prohibits refuelling or stockpiling within 50m of watercourses. Aquatic buffers will be marked out prior to works
7	Buffer zones and installation/management methodology should be included.	SWMP Sections 2.4, 4.0 and 4.2 reference buffers and discharge through vegetated areas.
8	Clarify discharge of silt-laden runoff and clean water near streams/buffer zones.	SWMP Section 4 requires clean water interception via upslope drains and runoff treatment through filtration, settlement and vegetated conveyance systems. Section 4.2 requires discharge via vegetated areas at greenfield runoff rates.
9	Provide RAMS for removal of contaminated material after hydrocarbon spill.	CEMP Section 12.2.3, EMP 3 Section 3.2 and SWMP Section 3.2 discuss contamination and contamination material disposal.
10	Concrete lagoon details conflict with references to bins/skips versus lined lagoons.	SWMP Section 3.1 clarifies that chute washout water will be directed to temporary impermeable lined containment areas and removed by licensed contractors.
11	Confirm system and management of excessive truck volumes during major concrete pours.	The term "excessive truck movements" is not defined within the submission. Traffic management arrangements for concrete deliveries are addressed within the Traffic Management Plan (TMP). SWMP Section 3.1 describes ready-mix delivery arrangements. Logistics and management of trucks is addressed as part of the TMP.
12	Borrow pit reinstatement should detail compaction methodology and chemical compatibility of replacement materials.	SWMP Section 2.3 addresses the Borrow Pits. Only site sourced material will be utilised to reinstate the borrow pits. Retaining soils within their field of origin is not considered necessary and may not align with the principles of the Waste Framework Directive and the circular economy where suitable site-won materials can be



		beneficially reused. This proposed approach is commonly used on wind farm sites.
13	Final CEMP should fully detail HDD mitigation and bentonite slurry recovery/disposal.	SWMP Section 4.4 Grid Connection deals with trench construction. Further detail on the HDD methodology is found in Chapter 2 - Description of the Proposed Project). Inert (i.e. non-toxic) drilling fluids such as bentonite or bioclear are utilised in HDDs with recovery of fluid at the reception pits. As with all waste material, bentonite will be disposed of in accordance with the Waste Management Act 1996 as amended.
14	Soil movements along TDR are not understood and should be controlled.	While this is listed under the water section, it appears to be a query for traffic. Traffic management is controlled as per the TMP - Appendix 16-1. Excavated material at each relevant TDR accommodation area will be used to reinstate that area and any excess material, of which we do not expect any significant volume due to the minor nature of the accommodations, will be disposed of at an appropriate licenced facility.
15	Refuelling details are not site specific and no hardstanding/interceptor identified.	SWMP Section 2.1 includes hydrocarbon interceptors at the substation and construction compounds. SWMP Section 3.2 provides details of refuelling controls.
16	Reliance on drip trays and good practice only.	SWMP Section 3.2 continues to rely primarily on drip trays, absorbent mats and spill kits although hydrocarbon interceptors are proposed at compounds.
17	Mobile plant should be refuelled at dedicated hubs with controlled workforce refuelling for large plant.	SWMP Section 3.2 requires trained operatives and refuelling setbacks from watercourses. The proposed suggestion is reasonable and aligns with the approach of the Applicant in Chapter 8, Section 8.4.3.
18	Include detailed site-specific RAMS for refuelling activities.	CEMP EMP 3 Section 3.2 and SWMP Section 3.2 provide management measures.

2.1.1.41 Resolutions Proposed

The Leitrim County Council submission also proposes five resolutions which are addressed within this submissions response. Resolution 1 (Section 2.2.57), Resolution 2 (Section 2.2.68), Resolution 3 (Section 2.2.33), Resolution 4 (Section 2.2.39 to 2.2.42) and Resolution 5 (Section 2.2.61).

2.1.2 Department of Defence

2.1.2.1 Turbine Lights

The Department of Defence submission has requested that all turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week. Obstacle lighting may be incandescent. If LED or other lighting types are used, should be a type visible to Night Vision equipment. Obstacle lighting must emit light at the near Infra-Red (IR) range of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength. Light intensity to be of similar value to that emitted in the visible spectrum of light.

The Department of Defence also request that in the event of negative impacts on future military radar systems, the owner will engage with the Department of Defence and will provide suitable mitigations as soon as practical.

In response, the colour of the turbine lights will be in compliance with Irish Aviation Authority (IAA) standards e.g. red lighting for onshore wind turbines.

The requests above from the Department of Defence is acceptable to the Applicant.

2.1.3 Department of Housing, Local Government and Heritage (Development Applications Unit (DAU))

2.1.3.1 Archaeological, Architectural and Cultural Heritage

The submission from the Department of Housing, Local Government and Heritage does not include any queries regarding the content of Chapter 14 of the submitted EIAR (Archaeological, Architectural and Cultural Heritage) and notes all mitigation measures in the chapter should be carried out, including pre-development test trenching. This is noted and accepted by the Applicant.

The submission also outlines that the Construction Environment Management Plan (CEMP) will include the location of archaeological and cultural heritage constraints identified in EIAR Chapter 14 (Archaeological, Architectural and Cultural Heritage) and by subsequent investigations, and that it will describe all likely impacts and mitigation measures. This is noted and accepted by the Applicant.

2.1.3.2 Matters relating to Designated Sites

The Department notes that Turbines 7 and 8 are situated close to the western boundary of the Natural Heritage Area (NHA). The Department raises concerns regarding potential effects of the proposed development upon upslope habitats such as Annex I Blanket bog within Dough/Thur Mountain NHA.

There will be no vegetation removal within the NHA inclusive of the facilitation of bat buffers surrounding turbines.

The potential likely significant effects on the NHA have been outlined in EIAR Chapter 5 (Biodiversity) Section 5.6.2.2.1, namely;

- Habitat degradation associated with peat instability;
- Habitat degradation associated with drainage impacts; and
- Habitat degradation associated with dust deposition.

Peat Instability

Chapter 5 (Biodiversity) Section 5.6.2.2.1.1 considers habitat degradation within Dough/Thur Mountains NHA as a result of peat instability. The Biodiversity Chapter acknowledges that a peat slide has potential to result in significant effects on upland habitats such as priority Annex I habitat type 7130* Blanket bog (active) resulting in the permanent loss of habitat as well as degradation of surrounding habitat. Furthermore, it is noted that peat slides can facilitate peat erosion further degrading the quality of upland habitats.



A summary of the mitigation measures proposed for peat instability is provided in Chapter 5 (Biodiversity) Section 5.6.2.2.1.4, and consist of:

- implementing site-specific temporary and permanent works designs for areas of deeper peat and steeper slopes;
- implementing careful detailed design and construction supervision across the site;
- the stepping or battering back of excavations to a safe angle, and/or the construction of a temporary sheet pile wall and/or rock fill berm to support the peat during construction or decommissioning; and
- after a significant rainfall event the Ecological Clerk of Works (ECoW) will be responsible for ongoing monitoring and maintenance of drains, culverts, settlement ponds, backfilled borrow pits, rock berms created at the top of cuttings, and floated access roads.

Following the application of these mitigation measures, the findings of the planning stage Peat Stability Risk Assessment indicates a “low” to “negligible” hazard ranking for instability related to the requirement for excavations across the proposed wind farm site, including at T7 and T8, as detailed in EIAR Chapter 7 (Land, Soils and Geology) and Appendix 7-1.

Drainage Impacts

Although connectivity with the proposed wind farm site and Dough/Thur Mountain NHA exists, there is c. 80 m between the boundary of the NHA and the nearest proposed wind farm site infrastructure, which is the cut and fill buffer at T5 (EIAR Figure 5-6), down slope of the NHA.

As stated in EIAR Chapter 5 (Biodiversity) Section 5.6.2.2.1.2, best practice guidance¹² on assessing the impacts of developments on peatlands advise that a range of 30 m should be used to calculate indirect impacts of drainage on peatland hydrology. Therefore, no direct or indirect impacts on the hydrology of the peatland habitats within Dough/Thur Mountains NHA are anticipated due to the separation distances (>80 m) involved. In summary, no likely significant effects at any geographic scale on the peatland habitats of Dough/Thur Mountains as a result of drainage impacts are anticipated as a result of the proposed development.

Dust Impacts

As stated in EIAR Section 5.6.2.2.1.3, the Zone of Influence for air quality effects for the development is within 50 m of the works corridor¹³. Temporary effects on the productivity of the peatland habitats within Dough/Thur Mountains NHA are not anticipated as a result of dust deposition due to the separation distances involved (c. 80 m). Furthermore, substantial parcels of Conifer plantation (WD4) are located between the NHA and the proposed wind farm site infrastructure inclusive of that surrounding T5, T8, and T13, which will screen construction related dust from the air.

¹² NatureScot (2026) *Advising on peatland habitats and carbon-rich soils in development management*. NatureScot. Revised March 2026. Available at: <https://www.nature.scot/doc/advising-peatland-habitats-and-carbon-rich-soils-development-management>

¹³ IAQM (2024). *Guidance on the assessment of dust from demolition and construction*. January 2024 (Version 2.2)



In summary, no likely significant effects at any geographic scale on the peatland habitats of Dough/Thur Mountains NHA are anticipated as a result of dust deposition associated with the proposed wind farm site.

Lough Gill and Lough Melvin

In the same paragraph, the Department also highlights the risk of peat instability to downstream habitats and species in the Lough Gill Special Area of Conservation (SAC) and Lough Melvin SAC. The potential for likely significant effects on downstream SACs resulting from degradation of surface water quality is addressed in EIAR Chapter 5 (Biodiversity) Section 5.6.2.1.1.

Lough Gill SAC

The boundary of Lough Gill SAC [001976] is located ca. 200 m south of the proposed wind farm site, at the nearest distance. The proposed wind farm site is upstream and hydrologically connected to the SAC via the Brackary_010 and Owenmore (Manorhamilton)_020. As such, a hydrological pathway exists between the proposed wind farm site and the SAC which is located 2.2 km downstream at nearest distance.

In the absence of mitigation, there is potential for negative impacts on Lough Gill SAC including the release of sediment laden surface water or otherwise polluted water to watercourses draining the proposed wind farm site. However, it is important to note there are no in-stream works proposed within the proposed wind farm site.

In addition, sections of the proposed Grid Connection Route (GCR) are located within the boundary of Lough Gill SAC for ca. 920 m. The trenching of the cable within the public road network includes six existing watercourse crossings (Aquatic site 15, 16, 17, 19, 22, 24) within the SAC along the Bonet River, with an additional eight existing watercourse crossing outside of the SAC boundary which drain into Lough Gill SAC (Aquatic site 12, 13, 14, 18, 20, 21, 26, 27). Any trenching within 50 m of a watercourse has potential to result in siltation and/or contamination of watercourses. As the vegetation removal to facilitate the temporary launch pits for HDD is located >50 m from any watercourses, there is no potential for siltation and/or sedimentation of watercourses as a result.

Habitat surveys along the proposed GCR confirm there will be no direct loss of Annex I habitats within the SAC as a result of the proposed project. A loss of c. 10 m of Hedgerow (WL1) is proposed within the SAC to accommodate the temporary launch pit at HDD Site 1. There will be no in-stream works along the GCR.

In summary, likely significant effects on the listed Qualifying Interests (QIs) are not anticipated considering the embedded mitigation measures for the protection of water quality inclusive of: the SuDS measures, hydrocarbon interceptors, avoidance of in-stream works, avoidance of karst features, as well as the use of sediment traps, silt fences, and bunded fuel storage, as listed in EIAR Chapter 5 (Biodiversity) Section 5.5.

In summary, **no likely significant effects at any geographic scale** are anticipated on the QIs of Lough Gill SAC nor the overall integrity of the European site as a result of the proposed project.

Lough Melvin SAC

Lough Melvin SAC (000428) is located 6.4 km downstream of the proposed wind farm site and hydrologically connected via the Lisdarush (EPA_Code: 35L68), the Lattone 35 (EPA_Code: 35L66) and the Rosfriar (EPA_Code: 35R32) before discharging into Lough Melvin. As such, a hydrological pathway exists between the SAC and the proposed project.

The proposed internal access tracks to T1 and T2 will traverse the EPA river Lisdarush (EPA Code: 35L68) at three locations. In the absence of mitigation there is potential that the proposed works at these watercourse crossings and within 50 m of the Lisdarush river, will result in the deterioration of surface water quality through contamination and/or the release of sedimentation leading to siltation of downstream watercourses with hydrological connectivity to the SAC.

In the absence of mitigation, this constitutes a potential pathway for likely significant effects on QIs, specifically those which are sensitive to water quality. However, likely significant effects on the listed QIs are not anticipated considering the embedded mitigation measures for the protection of water quality (Section 5.5) inclusive of: the SuDS measures, hydrocarbon interceptors, avoidance of instream works, avoidance of karst features, as well as the use of sediment traps, silt fences, and bunded fuel storage.

In summary, **no likely significant effects at any geographic scale** are anticipated on the QIs of the SAC nor the overall integrity of the European site as a result of the proposed project.

It is concluded that EIAR Chapter 5 (Biodiversity) has appropriately considered the peat stability concerns raised by the DAU, including the potential for peat instability to result in the loss or degradation of upslope peatland habitats and downstream effects on European sites. Specific assessment and mitigation measures have been provided in relation to each identified potential likely significant effect. Water quality mitigation measures for the protection of downstream SACs are summarised in EIAR Chapter 5 (Biodiversity) Section 5.6.2.1.4. For a more detailed assessment on mitigation measures for the protection of water quality refer to EIAR Chapter 8 (Hydrology and Hydrogeology) Section 8.5.

2.1.3.3 Ornithology

The Department of Housing, Local Government and Heritage (Development Applications Unit (DAU)) highlights the sensitivity of the area for breeding hen harrier, noting 2 to 3 pairs identified as utilising lands in and around the project area, forming part of the Leitrim, Slieve Rushen and Cavan complex, which has declined 27% from a peak of 15 pairs in 2015. The Department raises three substantive concerns relating to ornithology, addressed in Items 1-3 below, together with a separate point on the potential for overlap between proposed vegetation control measures within the rotor-swept areas and the Dough/Thur Mountains Natural Heritage Area, addressed in relation to kestrel in Item 4 below.

1. Lead-in time for nesting enhancement works. *The DAU notes the proposed creation of two Nesting Enhancement Areas, respective to the two pairs regularly utilising the site, through conversion of coniferous plantation, and expresses a preference for such forest-to-bog/heath restoration over short-term management activities. Its concern is that the one-year lead-in time proposed for felling and enhancement works within the Nesting Enhancement Areas (NEAs), in advance of construction, is unlikely to provide suitable nesting alternatives as adequate mitigation for potential disturbance and displacement effects, since the enhancement works would run concurrently with construction-related*

disturbance. The DAU separately notes that high-quality optimal nesting habitat will require sustained management over a number of years, that faster-growing dense-sward grasses, thicket-stage scrub and conifer reseedling from adjacent plantation may render habitat suboptimal in the absence of ongoing management and recommends that the lead-in time for nesting enhancement works be adequately progressed in advance of any potential displacement effects during construction.

Response

(1) In response to this concern, the Applicant can confirm that the lead-in period for felling and enhancement works within the Nesting Enhancement Areas will be extended to 18 months in advance of construction commencing, rather than the one year originally set out in the OBMP (Appendix 6-13) as submitted. No compensation or enhancement works can commence until planning permission is granted, and the extended period allows NEA felling, baseline surveys and NEA-specific plan agreement to be brought forward as far as practicable within that constraint. Habitat establishment will then continue through the two-year construction phase and beyond, which the OBMP acknowledges is necessary because heather and scrub establishment is an inherently multi-year natural process. While heather takes longer to mature, scrub can colonise felled ground quickly, so the newly felled NEAs will resemble pre-thicket, clear-felled forestry in their early years. This is itself favourable nesting habitat: hen harrier in Ireland are known to nest in the pre-thicket stage of first, and particularly second, rotation conifer plantation, as well as in upland heath and scrub (OBMP, EIAR Chapter 6, Appendix 6-13), so the NEAs will offer suitable nesting structure well before the heather itself has fully established, and now with a further six months' head start on that process.

It should also be noted that the establishment of suitable nesting habitat within the NEAs is not the primary basis on which construction-phase disturbance risk to the southern pair will be managed. That protection instead comes from the separate confirmatory pre-commencement survey and disturbance buffer mechanism addressed under Item 2 below, which does not depend on the NEAs being functionally mature and operates for every construction season regardless of how long the NEAs have had to establish. The NEAs themselves compensate for operational-phase habitat displacement (EIAR Chapter 6, Section 6.4.9.1), and their scale, 54.15 ha across the two areas, is deliberately generous relative to the very small area an individual nest itself requires, precisely to give the pairs a genuine choice of nesting locations within secured, managed habitat over the life of the proposed project, rather than to mitigate any single, time-critical event.

The OBMP acknowledges that there will be a temporal lag between the initial implementation of the compensation measures and full functional delivery, since restoration ecology and conservation responses take time to manifest (EIAR Chapter 6, Appendix 6-13). The extended 18-month lead-in period is intended to close that lag as far as practicable within the wider programme, addressed further under DAU submission Item 3 below.

In summary, the applicant has committed to extending the lead-in period for NEA felling and enhancement works to 18 months in direct response to the DAU's concern; the NEAs' scale and management are designed to offer genuine, secured nesting choice over the life of the proposed project rather than to mitigate any single time-critical event; and construction-phase

disturbance risk in the interim is separately and independently managed through the pre-commencement survey and buffer mechanism addressed under DAU submission Item 2.

2. Southern pair proximity, disturbance buffer and CEMP sequencing. The DAU's second, and most specific, concern is that the southern breeding pair is noted to have remained largely within a core breeding area in close proximity to a number of proposed turbines, notwithstanding any habituation to existing low-level disturbance such as local roads, and that the CEMP states works will commence at the southern end of the site, within the likely disturbance distance of nesting attempts by the southern pair, in advance of any future relocation. The DAU cites Goodship and Furness (2022) for the recommended precautionary buffer of up to 1 km from known breeding sites during highly disruptive activities such as construction.

Response

(2) This matter is addressed in EIAR Chapter 6, the CEMP (Appendix 2-4) and the OBMP (Appendix 6-13) through confirmatory pre-construction surveys and disturbance buffers of up to 1 km that will be applied around active nests during construction. Confirmatory pre-commencement surveys and buffer zones (EIAR Chapter 6, CEMP Appendix 2-4) sequence works around actual, current nest locations in each construction season, rather than assuming static historical locations, and this specifically answers the DAU's concern about the southern pair's proximity to proposed works: if the southern pair is nesting within 1 km of the southern working area when felling is due to commence there, the disturbance-free buffer will apply and works will be sequenced around it, regardless of where the pair was recorded in previous seasons.

On the underlying buffer distance itself, the OBMP (Appendix 6-13) sets out why a fixed 750 m buffer around the NEAs, increasing to 1,000 m for construction activity such as felling with high visual and auditory disturbance potential, was adopted, consistent with the 1 km figure the DAU itself cites from Goodship and Furness (2022)¹⁴. The OBMP records the specific nest-site variability and habituation evidence for the southern pair that the DAU's own submission also notes: the pair nested or attempted to nest across a corridor approximately 2.5 km in length between 2020 and 2024, so a fixed buffer around any single historical location would not be appropriate, and has nested as close as 5 to 10 m from local roads, evidence of habituation to low-level, ongoing disturbance of the kind the DAU itself distinguishes from construction-scale disturbance. The confirmatory pre-commencement survey and 1,000 m construction buffer mechanism is designed precisely to work around that variability, rather than relying on a fixed historical buffer that this pair's own recorded behaviour shows would not be reliable.

In summary, the DAU's concern is addressed by confirmatory pre-commencement surveys during each construction season and a 1,000 m disturbance-free buffer to be applied around nests before works proceed, meeting the precautionary distance the DAU itself cites from Goodship and Furness (2022).

¹⁴ Goodship, N. M., Furness, R. W., & (MacArthur Green). (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. <https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance>



3. Long-term deliverability of habitat management. The DAU's third concern is that the efficacy of successful habitat management within the lifetime of the development should be demonstrably deliverable, that is, that habitat deterioration and nesting disturbance or displacement should be prevented not just at establishment but across the life of the project.

Response

(3) Habitat management will be secured for the operational lifespan of the wind farm through planning conditions and formal legal agreements with landowners (OBMP Appendix 6-13), with monitoring and an adaptive management framework linked to post-construction surveys (EIAR Chapter 6, Section 6.4.11). The OBMP sets out the ecological, hydrological and topographical basis for site selection and responds directly to NPWS's advice, given at the 18 March 2026 consultation meeting (EIAR Chapter 6, Table 6-1), that past forestry-conversion sites in Ireland and the UK have failed where habitats became unmanageable as trees recolonised. As such, the OBMP commits to practical, realistic management measures and simple, replicable monitoring metrics, with remedial and adaptive management action available if monitoring shows the measures are not working.

In summary, management of the NEAs for the full operational lifetime of the wind farm is a firm commitment by the applicant, secured through planning conditions and legal agreement with landowners rather than left as an aspiration, and the measures themselves are deliverable: they are grounded in practical, realistic management prescriptions and simple, replicable monitoring metrics that respond directly to NPWS's own advice on where past forestry-conversion schemes have failed, with adaptive management action available should monitoring show they are not working.

4. Overlap with the Dough/Thur Mountains NHA boundary. The DAU separately recommends that any overlap between the Dough/Thur Mountains NHA boundary and proposed vegetation control measures within rotor-swept areas, carried out as foraging mitigation for bats and kestrel, should not result in habitat losses that have not been fully assessed within the context of a protected site.

Response

(4) Measures to reduce prey availability for kestrel in bat mitigation felling buffers (and therefore reduce collision risk for kestrel) are set out in EIA Chapter 6 Table 6-24. These measures do not result in unassessed habitat loss within the NHA, because the bat mitigation felling buffers themselves are located outside the NHA boundary: the vegetation control measures and the protected site do not overlap, so no habitat loss within the NHA arises from this mitigation.

2.1.4 Fermanagh and Omagh District Council

2.1.4.1 Ornithology

1. Fermanagh and Omagh District Council raises one ornithology-related item in its submission: a general concern regarding collision risk to bird species arising from the proposed development which could give rise to indirect or transboundary effects, without specifying particular species or citing site-specific evidence.

Response

(1) The EIAR's collision risk assessment (EIAR Chapter 6, Section 6.4.3.2.1.2, Appendix 6-14) covers every important bird species considered at risk of collision, based on flight activity data recorded, including: common kestrel, common snipe, Eurasian woodcock, European golden plover, hen harrier, lesser black-backed gull, white-tailed eagle and whooper swan (EIAR Chapter 6, Table 6-15), using the current NatureScot Band collision risk model with species-specific correction factors for nocturnal flight activity. Only breeding hen harrier and, on a precautionary adult-mortality basis, white-tailed eagle exceed the 1% background-mortality screening threshold at a regional and ROI scale, respectively; both are addressed in detail under the third-party theme 'Collision risk modelling', submission Item 3. No significant effects arising from collision risk are predicted for hen harrier, white-tailed eagle or any of the assessed species (EIAR Chapter 6, Tables 6-16 to 6-23). Transboundary effects on ornithological receptors in Northern Ireland were also specifically considered, including cross-border bird movements and Northern Ireland's own designated nature conservation sites; no functional ecological pathways or likely significant transboundary effects were identified (EIAR Chapter 6, Section 6.4.8).

2. Separately, Pettigoe Plateau SPA is also mentioned in the context of water quality/downstream effects and pollutant/runoff management.

(2) The submission raises Pettigoe Plateau SPA in the context of water quality and downstream pollutant pathways rather than direct effects on the site's qualifying bird populations; those hydrological matters are addressed in the Natura Impact Statement, which concludes no adverse effect on the integrity of any European site, including Pettigoe Plateau SPA.

2.1.4.2 Landscape and Visual

The landscape and visual effects generated by the proposed project within the Fermanagh and Omagh District Council (FODC) area have been considered as part of the submitted LVIA. As outlined in Section 13.11 of the submitted assessment, the 20 km study area extends into Northern Ireland and includes a number of representative viewpoints selected specifically to assess visual effects from receptors within and adjoining the FODC administrative area. The viewpoint selection was informed by the ZTV, fieldwork and the distribution of relevant settlements, routes, scenic locations and other sensitive receptors. The LVIA methodology also recognises that receptor sensitivity varies according to factors including the nature of the receptor, the importance of the view and the distance from the proposed project.

The assessment therefore does not rely solely on the distance of FODC receptors from the proposed project or assume that cross-border visual effects will be negligible. Rather, representative views from within this part of the study area have been assessed individually, including through the accompanying photomontages, with consideration given to the scale and extent of turbine visibility, intervening landform and vegetation, the character of the receiving view and receptor sensitivity.

The assessment identifies that the greatest visual effects are concentrated within the immediate and central study area surrounding the site. At increasing distances, including within the FODC area, the proposed project becomes a progressively smaller component of the wider landscape and is subject to a greater degree of screening by intervening upland landform. This does not mean that the turbines will be entirely screened from FODC; where visibility occurs,

they may be clearly discernible, particularly from more open and elevated locations. However, their perceived scale and influence on the overall visual amenity of these views is noticeably diminished by distance. The LVIA consequently identifies the proposed project as a distant background feature from the more susceptible landscapes within the wider study area, with limited influence on their overall character.

Overall, the potential visual effects within FODC have already been considered through the submitted LVIA and its representative viewpoint assessment. Whilst some visibility of the proposed project will occur from within this part of the study area, the assessment does not identify any Significant visual effects within the FODC portion of the study area. Indeed, visual effects within this part of the study area are classified as no greater than Slight. Consequently, the resulting visual effects are of a low order of magnitude, and residual transboundary visual effects within Northern Ireland are therefore assessed as Not Significant.

2.1.4.3 Transboundary Effects

This FODC submission raises the issue of transboundary effects including on residential amenities within the council area.

It is confirmed that the potential for transboundary effects has been examined having regard to the proximity of the proposed wind farm to Northern Ireland and is detailed where relevant within the EIAR.

As noted in the EIAR, each environmental specialism has its own study area distance based on guidance and best practice. For example, Landscape and Visual Impact Assessment has the largest defined study area and for this project covered an area of 20 km. When assessing Shadow Flicker it is best practice to apply a distance of ten rotor diameters as a maximum limit within which significant shadow flicker effects can occur. As noted in the FODC submission, there are no dwellings in Northern Ireland within this distance.

There are no statutory guidelines in respect of how far from the site boundary or proposed turbines the assessment should extend for the purpose of population and human health impacts and assessment, however the distances identified as part of the assessment of other environmental factors (e.g., air quality, noise, landscape and visual and shadow flicker) are useful references.

The assessment of population and human health primarily considers the proposed project and the surrounding area, the proposed GCR and TDR. The assessment considered property receptors and residential amenity, as well as current land use and activities, occurring within and in the vicinity of the proposed wind farm site, as this is where the most likely significant effects on population and human health receptors may occur.

The study area for population and human health includes review of relevant information on a county and national scale but is mainly concentrated on the Electoral Districts (ED) within which the proposed project is located.

As detailed in the EIAR and EIAR Appendix 1-6, a 10 km planning search was completed to identify relevant projects and developments currently within the planning system. Furthermore, a review of relevant planning applications and permitted developments within the Northern Ireland jurisdiction at the time of assessment (see EIAR Appendix 1-6) has not

identified any developments of sufficient scale or proximity that would result in significant transboundary or cumulative effects when considered in combination with the proposed project.

The EIAR findings confirm that the proposed project itself will not result in significant transboundary effects in Northern Ireland.

2.1.4.4 Community Benefit Fund

The project community benefit fund is discussed in Section 2.2.12.

2.1.4.5 Invasive Species

Invasive Species the proposed Invasive Species Management Plan is discussed in Section 2.1.1.15.

2.1.5 Geological Survey Ireland

As noted in the EIAR many shallow depressions, swallow holes and other karst features have been identified in the location of the proposed wind farm site, and the turbine and other infrastructure have been located to avoid these features. It is noted that some roads and access points could not avoid the karst features and so mitigation measures and accommodations have been recommended in these areas. It is considered important given the extent of karst features and the unknown below ground karst features that may exist including groundwater flow in fractured karstic rock, that the developer have satisfied themselves with a competent geologist or hydrogeologist that this does not pose either a structural limitation to the development or a risk of contamination reaching the groundwater through direct conduits. In Karst rock formations the contaminants can rapidly travel long distances.

Response

As detailed in Chapter 7 of the EIAR extensive field work was undertaken to identify and assess karst features in the area. The features have been avoided with measures identified to address any subsurface features. Engineering large structures in karst landscapes has become a relatively common occurrence in Ireland where over 50% of the bedrock is prone to karstification (i.e. either Limestone or Gypsum). For example, large motorway bridges have been safely constructed in more active karst landscapes (Madden and O'Hara, 2016, Ruddy & Jennings, 2012). A number of wind farm projects have been successfully constructed and are operational in areas of dolomitised limestone including three wind farms at Lisheen, Co. Tipperary.

Mitigations are outlined in EIAR Chapter 7 Soils and Geology, EIAR Volume III Appendix 2-4 Construction Environmental Management Plan (CEMP) and below which will be implemented at detailed design stage to reduce the karst risk.

A karst protocol will be employed during construction and involves a series of steps and methodologies in karst areas. An example of the karst feature inspection protocol is documented by Madden & O'Hara (2016)¹⁵. Ground stabilisation measures that will be

¹⁵ Madden and Hara (2016) The treatment of karst features encountered during road construction in County Galway



employed include compaction, grouting/stabilisation, geotextile or utilising raft foundations where required. Where weathered limestone or karst is encountered at formation level, the feature will be mapped in detail. Each feature and associated mitigation measure will be documented and included in the safety file for the proposed project. The stabilisation measures will be approved by a geotechnical engineer. Where infilling or grouting is required, works will be supervised by a suitably qualified hydrogeologist to ensure there is no effect on groundwater.

Potential interactions from construction activities at the wind farm are limited to indirect pathways, such as temporary changes in runoff, sediment mobilisation, or localised shallow-groundwater disturbance, as no works occur within the lake basin, swallow hole zone, or direct karst pathways. These effects would be localised to the site and attenuated over distance, resulting in a low magnitude of impact. Consequently, the overall significance of potential construction-phase effects is classified as not significant, short-term, and unlikely.

2.1.6 Health Service Executive

2.1.6.1 Community Fund

In the Health Service Executive submission, the National Environmental Health Service recommends that the community fund should facilitate infrastructure for everyone and not only funding existing organizations. Consideration should be given to opportunities for health gain from the proposed development. This would include opportunities to create recreational spaces, opportunities to increase physical exercise through walking and cycle routes. Where possible, pedestrian areas should be accessible to wheelchairs, pushchairs and mobility vehicles in order that all ages and all levels of mobility can access the improved recreational amenities.

In response, the Government has provided guidelines on how Community benefit funds are managed and distributed under the Renewable Electricity Support Scheme (RESS), prepared by the Department of the Environment, Climate and Communications, the Rulebook for Community Benefit Funds under RESS¹⁶. It outlines the rules, roles, and guidelines for the operation of CBFs, which are mandatory for renewable electricity projects supported by RESS. The funds aim to ensure that local communities hosting renewable energy infrastructure benefit from sustainable initiatives.

This initiative places the community at the centre of decision-making, empowering residents to identify their local community priorities and shape both short-term projects and long-term plans. Local people will have full control over how funds are allocated, enabling investments that truly reflect the needs and aspirations of the community, fostering sustainable growth, rural generation and well-being for many years to come and may support infrastructure projects, among other initiatives. This could include opportunities to create accessible recreational spaces that facilitate physical exercise if the local community so chooses. The Fund is open to individuals and not-for-profit organisations, including community and voluntary groups, charities, social enterprises, clubs and societies.

¹⁶ https://assets.gov.ie/static/documents/Rulebook_for_CBFs_under_RESS_branded.pdf



2.1.6.2 Cumulative Impacts and Mitigation Measures

The HSE submission notes that while all existing or proposed wind farm developments in the vicinity have been clearly identified in the EIAR, the mitigation of cumulative impacts on sensitive receptors of the proposed development combined with any other wind farm / renewable energy development in the vicinity should be a condition of planning.

In response, EIAR Chapter 19 (Schedule of Mitigations) sets out the mitigation measures for the project including for cumulative effects. The Applicant will implement the mitigation measures as stated in the EIAR.

2.1.6.3 Construction Environmental Management Plan (CEMP)

In addition to the construction mitigation proposed in the CEMP submitted with the planning application, the HSE submission has suggested the below additional recommendations:

- a) All drinking water and water used for the preparation of food in the temporary construction compounds should meet the requirements of S.I. No. 122/2014 - European Union (Drinking Water) Regulations 2014.
- b) There should be no direct emission to ground or surface water of any foul wastewater. All wastewater should be contained and taken off site to a licensed treatment facility.
- c) Site drainage should ensure the protection of surface and ground water during the construction phase.
- d) The dust monitoring is a monthly average standard. Compliance with standard can incorporate short periods of very high levels of dust deposition followed by low levels and still be compliant. It is therefore important that dust minimisation is continually implemented, and any complaints are investigated and responded to. It is noted that a Dust management plan is part of the CEMP.

The above suggestions are acceptable to the Applicant and will be included within the updated CEMP upon receiving a grant of planning.

2.1.6.4 Noise

Comments by the NEHS

"..... This can potentially see a predicted increase of up to 15 dB(A) change in the noise environment as compliant with the criteria. Any change in the noise environment of this magnitude is highly likely to cause complaints and/or nuisance. BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound identifies an increase of 10 dB above existing rated noise levels will have a significant adverse impact and is highly likely to cause complaints. The reference to BS4142 is purely to demonstrate that there are authoritative Standards that recognise a change in a noise environment can have significant adverse effects and a magnitude of 10 dB(A) would be considered significant."

The NEHS makes specific reference to British Standard BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* (BS-4142) to demonstrate that 'a change in noise level can have significant adverse effect and a magnitude of 10 dB would be considered significant'.



Statements from BS-4142, if considered in isolation, fail to account for the context in which the noise levels occur and the overall level of noise, which are critical factors in the assessment.

The BS-4142 standard includes the following statement with respect to context:

"The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context."

"The absolute level of sound. For a given difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is high than for an acoustic environment where the residual sound level is low. Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night."

As a point of clarification, BS-4142 is not applicable to the assessment of wind turbines, and this is acknowledged in the comments from the NEHS. This is confirmed in Section 1.3 of BS-4142 which contains the following statement:

*'The standard is not intended to be applied to the rating and assessment of sound from:
[among other factors] other sources falling within the scope of other standards or guidance'.*

The assessment of wind turbine noise and associated impacts and effects fall within the scope of other standard and guidance as discussed in detail in Section 9.3.4.3 of the EIAR.

The comments from the NEHS also state:

"In the opinion of the NEHS, tabulation of the predicted change in the noise environment from the proposed development and the cumulative change in the original baseline noise environment before any wind farm development in the area is the most informative way of reporting the likely effect of operational noise in an EIAR."

Appendix 9-7 of the EIAR presents the predicted turbine noise levels at all Noise Sensitive Locations (NSLs) in tabulated form.

The criteria for setting turbine noise limits is outlined in Section 9.3.4.3 of the EIAR. This requires that background noise levels in the receiving environment be determined and that appropriate turbine noise limits be defined relative to the baseline noise environment.

Section 9.5.1 of the EIAR confirms the derived background noise levels which have been measured at eleven locations within the receiving environment. Section 9.5.2 of the EIAR discusses the applicable criteria and proposes operation noise limit for the wind turbines, which have been set with reference to the background noise environment at surrounding NSLs.

The likely significant effects of operational noise from the proposed development in combination with the existing Faughary Wind Farm has been assessed in accordance with best

practice guidance (IOA GPG), applicable guidelines (WEDG06) and EPA Guidelines on the Information to be contained in Environmental Impact Statements, (EPA, 2022).

The assessment is also supported by best practice guidance for the assessment of wind turbine noise, namely, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Turbine Noise (2013) and its supplementary Guidance Notes (2014) (IOA GPG). Full details of guidance documents referenced for the assessment of operational wind turbine noise are presented in Section 9.3.4.3 of the EIAR.

The comments from the NEHS also refer to the WHO Guidelines:

*“The NEHS would consider the most appropriate criteria for assessing significance of the predicted noise is consideration of the ENVIRONMENTAL NOISE GUIDELINES for the European Region, 2018. The 2018 WHO Guidance set health protection levels from Environmental noise
<https://iris.who.int/bitstream/handle/10665/279952/9789289053563eng.pdf?sequence=1>”*

“The WHO is the most authoritative body with regards to the evidence base that sets health protection standards. The NEHS would consider it appropriate for the Planning Authority to use the existing noise data to carry out an assessment against the WHO 2018 Guidance noise criteria. This should include cumulative noise impacts from existing and planned wind farm developments.”

The methodology adopted for the assessment of wind turbine noise in Chapter 9 of the EIAR is in accordance with the applicable guidelines set out in the Wind Energy Development Guidelines for Planning Authorities, 2006 (WEDG06).

The World Health Organisation (WHO) Environmental Noise Guidelines for the European Region (2018) were considered in the EIAR in the context of the noise impacts assessment and are addressed in Section 9.3.4.5 of the EIAR.

The following statement is reiterated from Section 9.3.4.5 of the EIAR:

“Based upon the review set out above, and in our professional opinion, the conditional WHO recommended average noise exposure level (i.e. 45 dB Lden), should not currently be applied as target noise criteria for an existing or proposed wind turbine development in Ireland.”

The assessment methodology as adopted in the EIAR is based on the WEDG06 Guidelines as presented in Section 9.3.4.3 of the EIAR.

2.1.7 Irish Aviation Authority (IAA)

2.1.7.1 Consultation with Sligo Airport and AirNav Ireland

The Irish Aviation Authority (IAA) submission has stated that the applicant should be required to engage directly with Sligo Airport to confirm that if permitted, the proposed development and any associated cranes utilised during construction would have no impact on instrument flight procedures, communications, navigation and surveillance equipment (CNS) and the safety of flight operations at Sligo Airport.

Sligo Airport were consulted as part of the project scoping (no response received) and considered in EIAR Chapter 15 (Material Assets) and EIAR Appendix 15-2. Sligo Airport is located approximately 30 km west of the proposed wind farm site. As the runway is over 25 km from the proposed wind farm site, there are no anticipated significant effects on the aviation activities of this aerodrome.

However, as requested by the IAA, the Applicant will consult with Sligo Airport should a grant of planning be received.

Likewise the IAA submission states that the applicant should be required to engage directly with the air navigation service provider AirNav Ireland to confirm that the proposed development and any associated cranes will not impact on en-route communications, navigation and surveillance equipment (CNS). Evidence of engagement and consultation with the above entities should be provided to the planning authority by the applicant / developer.

As requested by the IAA, the Applicant will consult with AirNav Ireland should a grant of planning be received.

2.1.7.2 Consultation with the IAA

The IAA submission states that in the event of planning consent being granted, the applicant should be conditioned to contact the Irish Aviation Authority to;

1. agree an aeronautical obstacle warning lighting scheme for the wind farm development;
2. provide as-constructed coordinates in WGS-84 format together with ground and blade tip height elevations at each wind turbine location; and
3. notify the Authority and Sligo Airport of the intention to commence crane operations with at least 30 days prior notification of their erection in accordance with S.I. 215 of 2005 Irish Aviation Authority (Obstacles to Aircraft In Flight) Order.

In response, upon a grant of planning being received, the Applicant will consult with the IAA on the issues stated above.

2.1.8 The Heritage Council

2.1.8.1 Archaeological, Architectural and Cultural Heritage

The submission from the Heritage Council asserts that there is a strong visual connection between the ring cairn and cist on Saddle Hill (AH01) and Kilroosk (Crochnagapple Hill) Barrow (AH110). The submission also asserts that the combination of moderate effects to both AH01 and AH110 should be considered of more significance due to the visual connection between the monuments.

As outlined in Chapter 14 of the EIAR, both monuments are considered of High sensitivity. Chapter 14 acknowledges that although monuments AH01 and AH110 are separated by c. 2.86 km, both monuments occupy prominent positions and the proposed T03 and associated hardstand will interrupt sightlines between these two monuments. We do not know that the monuments are contemporary to one another as neither have been dated. Chapter 14 has assessed T03 and its associated infrastructure as having indirect impacts of medium magnitude

upon AH01 and AH110. By following the methodology outlined in Section 14.2.3 of Chapter 14, an indirect impact of medium magnitude upon a receptor of high sensitivity results in a significance of effect determined to be moderate in this assessment.

The visual connection, alongside the following factors, was considered during the determination of a moderate significance of effect.

Although T03 will be located c. 146 m to the southwest of AH01 and will be clearly visible within its setting this will not prevent the monument from being read, understood and interpreted as a ring-cairn located on a hilltop. The visual connection between AH01 to the prehistoric landscape to the north of Saddle Hill (AH03 two barrows, a standing stone and a ceremonial enclosure; AH04 a wedge tomb) will remain. It is also acknowledged that although there are likely to be clear views from AH110 to the location of AH01, it is likely that the ring-cairn and cist of AH01 will be of low visibility, due to the undulations of the surrounding topography and relatively low topographical expression of the monument (EIAR Plates 14-6 and 14-7 of Appendix 14-2).

The closest proposed turbine (T03) is located c. 2.74 km to the east of AH110, and as such the monument's primary setting will remain unchanged. The proposed turbines will be read in the background of the monument.

Additionally, it is acknowledged that the indirect visual impacts will be removed following the decommissioning of the turbines after 35 years.

It is worth adding that the assessment of effects on AH01 and AH110 have not been queried within the submission by the Department of Housing, Local Government and Heritage. The Department initially highlighted potential impacts to these monuments in their scoping response.

2.1.8.2 Annex I Habitats

The applicant notes the call for emphasis on the retention of existing habitats, both within and outside the development site, over mitigation and enhancement measures with particular regard to the siting of T03 in particular. However, the mitigation hierarchy does not require biodiversity enhancement measures to be disregarded in favour of habitat retention. CIEEM describes the hierarchy as a sequential process comprising avoidance, mitigation, compensation and enhancement. Compensation and enhancement represent an appropriate component of the overall ecological strategy and project design. Therefore, compensation and enhancement complement, rather than substitute, the retention and protection of existing habitats.

EIAR Chapter 5 (Biodiversity) Section 5.5 lists various aspects of project design which have avoided direct impacts on sensitive Important Ecological Features (IEFs). Of particular relevance is bullet point three which identifies the siting of T3, T4 and T10 to avoid direct impacts from habitat loss on the priority Annex I habitat type 7130 *Blanket bog (active) as well as indirect effects associated with drainage.

The siting of T3 has intentionally avoided direct impacts on the priority Annex I habitat type 7130 *Blanket bog (active) through the retention of the habitat in-situ. Furthermore, the indirect degradation of the habitat from secondary impacts such as drainage and dust deposition have also been avoided through embedded design by maintaining adequate

separation distance from project infrastructure and the Annex I habitat type 7130 *Blanket bog (active).

Accordingly, the retention of the Annex I habitat in the vicinity of T3 has been achieved through project design and siting, rather than through reliance on subsequent mitigation or habitat enhancement measures. The Biodiversity Chapter concludes that there will be no likely significant effect at any geographic scale on Annex I habitat type 7130 *Blanket bog (active) in the local vicinity of T3 (Chapter 5 (Biodiversity) Section 5.6.2.3.16).

Annex I habitats assessed as being in unfavourable condition have been valued as of County Importance (Chapter 5 (Biodiversity) Section 5.4.3 Table 5-15). These habitats are in a degraded condition and are subject to persistent and ongoing threats associated with current land management practices such as overgrazing.

The extent of Annex I habitat loss is limited and is confined to habitats assessed as being in unfavourable condition and of County Importance. These habitats are already subject to persistent and ongoing pressures affecting their ecological integrity, including overgrazing. In this context, the proposed compensatory measures are considered proportionate to the limited residual effect associated with the losses. A total of 5.4 ha of Upland blanket bog (PB2) and Wet heath (HH3) will be managed for biodiversity (Chapter 5 (Biodiversity) Section 5.7). Furthermore, the Outline Biodiversity Management Plan provides the opportunity to deliver biodiversity management across a larger area, with a total area of 218.4 ha of land available for consideration..

In this regard, the proposed Outline Biodiversity Management Plan provides an opportunity to deliver additional biodiversity benefits as part of the proposed development. These measures are not relied upon as a substitute for avoiding or minimising impacts through the project design; rather, they are additional to the measures applied to retain existing habitats and off-set unavoidable negative effects.

It is therefore considered that the proposed approach is consistent with the CIEEM mitigation hierarchy, whereby avoidance and minimisation have been prioritised through embedded design (Chapter 5 (Biodiversity) Section 5.5). Furthermore, where significant negative effects cannot be avoided, appropriate and proportionate compensation measures have been proposed to offset residual effects and maximise ecological benefits associated with the proposed development (Chapter 5 (Biodiversity) Section 5.7). The approach therefore reflects the sequential application of the mitigation hierarchy set out in the CIEEM Guidelines for Ecological Impact Assessment (CIEEM, 2024).

2.1.9 Transport Infrastructure Ireland

2.1.9.1 Suggested Conditions

The TII submission has suggested two planning conditions to be included with a grant of planning regarding the provision of a Traffic Management Plan and an Abnormal Load and Exceptional Abnormal Load Management Plan. The Applicant is agreeable to these conditions.

2.1.9.2 Traffic Queries

TII emphasised the need to protect the safety, capacity and strategic function of the national road network and requested that the potential effects of construction traffic, haul routes and turbine-component deliveries on national roads and junctions be assessed.

Chapter 16 of the EIAR contains the Traffic and Transport Assessment for the Proposed Development. The assessment was prepared having regard to TII Publication PE-PDV-02045, Traffic and Transport Assessment Guidelines, and considers the existing road network, surveyed traffic volumes, forecast background traffic, construction traffic generation, construction haul routes and the resulting percentage increases at the identified assessment junctions.

Traffic Surveys and Existing Conditions

Traffic surveys were undertaken at the following junctions:

- L6184/N16.
- Upper Main Street/N16.
- Park Road/N16 Sligo Road.
- R282 Castle View/Park Road/N16 Sligo Road.

The survey results demonstrate that existing traffic volumes on the assessed network are generally low, with the highest forecast baseline approach flow during the assessed peak periods being 701 vehicles at the Upper Main Street/N16 junction.

Junction Assessment

The forecast traffic increases arising from the Proposed Development are presented in Chapter 16. The R282 Castle View/Park Road/N16 Sligo Road junction was identified as requiring detailed assessment and was modelled using PICADY.

The modelling results presented in Tables 16-13 and 16-14 of Chapter 16 demonstrates that the junction would operate at Level of Service A during both assessed peak periods, with maximum RFC values of 0.16 during the AM peak and 0.21 during the PM peak. The assessment therefore demonstrates that the junction has substantial reserve capacity and that the forecast construction traffic would not result in a significant deterioration in its operational performance.

Construction Haul Routes

The proposed construction haul routes are described in EIAR Chapter 16 and illustrated in Figure 16-5, Construction Haul Routes. The route strategy uses the national and regional road network for as much of each journey as feasible, with local roads used for the final approach to the site.

Construction traffic may arrive via the N15 and N16, the R280, R282 and R290 and the identified local-road approaches to the site.

Construction Traffic Management

The submitted Traffic Management Plan provides the traffic-management measures applicable to the construction phase. These include:

- Use of designated construction haul routes.
- Advance scheduling and coordination of HGV deliveries.
- Restrictions on HGV movements during the identified weekday peak periods unless otherwise agreed.
- Avoidance of schools, urban centres and densely populated areas where reasonably practicable.
- Provision of waiting and queuing areas within the site.
- Road cleaning and control of mud and debris.
- Pre- and post-construction road-condition surveys.
- Monitoring and maintenance of the affected routes.
- Advance notification of exceptional activities.
- Liaison with the relevant road authorities and An Garda Síochána.

Abnormal Indivisible Loads

The delivery of abnormal indivisible loads associated with the turbine components has been assessed separately through the submitted Turbine Delivery Route report. The proposed Abnormal Indivisible Loads (AIL) route is shown in Figure 16-6 of EIAR Chapter 16, and the associated vehicle swept-path drawings identify the physical accommodation required at constrained locations.

Approximately 23 to 38 turbine-delivery events are anticipated. These deliveries will take place outside normal construction hours, primarily during the night, when traffic volumes on the public-road network are lower. Each convoy will operate under delivery-specific temporary traffic-management arrangements and will be accompanied by a Garda escort.

Temporary Accommodation and Traffic Controls

The temporary accommodation requirements identified along the AIL route are summarised in Table 16-16 within Section 16.8.2.4 of EIAR Chapter 16.

The required temporary accommodation and operational measures will include, where applicable, temporary adjustment or removal of street furniture, localised road-edge works, vegetation management, temporary parking controls, advance route inspections, Traffic Management Operatives and other measures required to maintain the assessed vehicle swept path.

Temporary works and traffic controls affecting the public-road network will be coordinated with the relevant road authority before implementation.

Accordingly, the submitted Chapter 16 assessment, Traffic Management Plan, Turbine Delivery Route report and associated swept-path drawings address the traffic and transportation matters raised by TII. Continued consultation with TII, the relevant local road authorities and An Garda Síochána will be undertaken during the detailed construction and delivery-planning stages.

The Applicant confirms that the traffic and transportation-related recommendations and proposed conditions contained in TII's submission are acceptable. Their implementation will be coordinated with TII, the relevant local road authorities and An Garda Síochána, as applicable.

2.1.10 Uisce Éireann

2.1.10.1 Public Water Supply Conditions

Uisce Éireann have included six requests that they would like to be included as a condition of a planning grant to ensure appropriate safeguards are included to protect the downstream drinking water receptors. These are acceptable to the Applicant should a grant of planning approval be received.

2.2 THIRD PARTY SUBMISSIONS

Within the third party submissions the concerns and themes have been reviewed and are addressed within the relevant sections herein.

2.2.1 Community Engagement

Several submissions raised concerns regarding the lack of or inadequate public consultation. Public consultation is detailed in EIAR Section 1.8.2.4 and a Community Engagement Report detailing the consultation process is included as EIAR Appendix 1-5. Please refer to Tables 1 and 2 of the Community Engagement Report which summarises the community engagement process which took place from March 2021 to April 2026. Post planning submission, the two designated Community Liaison Officers remain available on the ground as key points of contact should any queries arise.

The Applicant commenced engagement with the local community during the early stages of the proposed project design. The engagement record for the proposed Lissinagroagh Wind Farm demonstrates a sustained and proactive commitment to engaging with local residents, particularly those living closest to the project area. Two Community Liaison Officers (CLO) were appointed during this process to provide consistent and on-the-ground engagement with the local community. Their role is to ensure project communications are distributed to the local community and to be the main point of contact for the community to discuss any queries or concerns that they might have. Contact details for the CLO (phone number and email address) were included in all project communications with the community.

The Community Liaison Officers personally delivered project information door-to-door, carried out follow-up visits, and encouraged residents to engage directly through meetings, phone calls, emails and face-to-face conversations.

Community engagement for the project had the objective of ensuring that the views and concerns of all members of the local community were considered as part of the project design and the Environmental Impact Assessment process. This engagement continued throughout the design development stage and has ultimately informed the design of the proposed project.

As noted in the Community Engagement Report (see EIAR Appendix 1-5), consultations took the form of an introductory letter to the project distributed to residents within 2 km of the study area, project website (updated with information as the project progressed), project brochure uploaded to the project website, distribution of four project update letters, distribution of a project brochure, flyer and accompanying cover letter, a virtual exhibition of project details was launched on the project website, a media release, advertisement in the Leitrim observer (print and online) and two public engagement clinics on different dates and time periods.

All communications were published on a dedicated project website, which also hosted a Virtual Tour Exhibition containing project information and photomontages to help residents understand the proposed development.

As noted above, community awareness was further supported through local media releases and newspaper advertorials promoting consultation opportunities and directing people to available project information.

The project team also hosted two days of local Community Engagement Clinics, providing residents, community groups and elected representatives with opportunities to meet the project team, review proposals and discuss concerns directly. Time slots were available from afternoon to evening. All interested parties who sought a meeting were accommodated at a time that suited them.

Local elected representatives were kept informed throughout the process and were invited to participate in engagement activities, with many attending the community engagement clinics.

Throughout the consultation process, the CLOs remained accessible and responsive, ensuring queries and feedback received through meetings, conversations, phone calls, texts and emails were logged and addressed. Taken together, the consultation record demonstrates a long-term commitment to open communication, transparency and meaningful face-to-face engagement with the local and wider community.

A public consultation event by appointment was selected over a town hall event because previous team experience has shown that these are more effective at fostering widespread participation and allowing everyone an opportunity to express their concerns and receive information directly from the experts. Everyone that sought a meeting with the applicant at the public clinics was accommodated.

A number of submissions have stated the location of the public engagement clinics was inconvenient. The public engagement clinics were held in the Rossinver Community Centre, Rossinver, Co. Leitrim, F91 NY6V, on Tuesday March 31 2026, 12.30pm-8pm and Wednesday April 1 2026, 12pm-6pm. The venue is circa 4 km from the proposed site. This location was chosen based on its suitability to facilitate such an event; its size, facilities, on-site services, security and proximity to the area.

Some submissions also noted that priority was given to residents within 2 km. This is true. Those living within 2 km of the site were prioritised on the basis that these local residents would be the closest to the proposed site and may be most sensitive to any potential effects caused by the Lissinagroagh Wind Farm development. The team defined this 2 km area as the basis for continuous engagement with the closest stakeholders, defined as “near neighbours”. The 2 km prioritisation ensured that these stakeholders were notified first with updates, which were communicated in person whenever possible. However, as detailed in the Community Engagement Report (see EIAR Appendix 1-5) and noted above, various methods of project communication, including with the wider public, were undertaken throughout the consultation process.

2.2.2 Measurement queries / missing properties

A submission was received from Fabian and Donna McMorrogh which stated that the closest hardstand is 610 m from their home (receptor 1467, see EIAR Figure 4-2). This has been checked and remeasured and the hardstand of turbine T03 is confirmed to be at a distance of 627 m at the closest point. The closest turbine location is situated at a distance of 785 m (in excess of four times the maximum proposed tip height).

A submission was received from Niall McEnroy (Eircode F91 C962) stating that this house is missing from the map. This Eircode has been checked and this property is present on the mapping (see EIAR Figure 4-2) as reference number 1594.

Some submissions stated that their properties were not visible on maps in the brochure or at the consultation event and thus were not taken into account. With regards to maps in the brochure (and some of the maps the team had available at the community clinics), these were intended to provide general information about the project and the general surroundings. The project team used the published maps from Ordnance Survey Ireland (now called Tailte Éireann) as background to display this information as they usually give a good representation of the surrounding area. The project team do not rely on these maps for our assessments. The project team undertook a detailed search of aerial photography and on the ground surveys to confirm all dwellings. These properties are presented in the appropriate locations in the EIAR and detailed on EIAR Figure 4-2.

2.2.3 Size and Location of Turbines

Several submissions consider that the proposed wind turbines are inappropriate due to their scale, location within the area and proximity to residential properties.

In response, as noted in EIAR Chapter 2 (Description of the Proposed Project), the 14 no. wind turbines on site will have a blade tip height range of 180 m to 185 m inclusive, a rotor diameter range from 149 m to 163 m inclusive, a hub height range from 101 m to 110.5 m inclusive. These are the dimensions of turbines currently available on the procurement market.

Turbine heights in Ireland have increased significantly, with onshore structures now often reaching 185 m, driven by the need for higher energy output, better efficiency, land availability and the limitations of older technology. Taller turbine towers replace aging technology to capture smoother wind called laminar flow, utilising stronger and more reliable winds to significantly increase power output. More efficient larger towers also reduce the number of turbines needed on site to produce the same amount of electricity.

During the design of the proposed Lissinagroagh Wind Farm site layout, environmental constraints (including proximity to residential developments) and technical constraints were considered (see EIAR Chapter 3 (Reasonable Alternatives), which discusses the alternative layouts and designs considered). Along with adherence to legislation and guidance for wind farms as discussed in EIAR Chapter 2 (Description of the Proposed Project), these constraints informed the final site design and the positioning of turbines on site. It is of note that all turbines are positioned at a minimum of 740 m from residential properties (four times the maximum 185 m tip height, in accordance with the Draft Revised Wind Energy Development Guidelines (2019)).

This area has a known wind resource suitable for wind farm developments. As noted in EIAR Chapter 3 (Reasonable Alternatives), the Wind Atlas mean wind speed was determined for the proposed wind farm site and was considered to be suitable in the context of operational efficiency and the nature of modern-day turbine technology. The 2013 SEAI Wind Speed Atlas identifies the proposed wind farm site as having a wind speed of between 7.0 m/s and 8.2 m/s at 100 m above ground level, identifying the site as a candidate for wind energy.

A submission from Cllr Justin Warnock has queried what evidence there is of other areas being considered. The site selection process is detailed in EIAR Chapter 3 (Reasonable Alternatives), which sets out the screening stages of identifying suitable sites and lists the other sites which were identified through the screening process including Lissinagroagh.

2.2.4 The Wind Farm Planning Application and Grid Connection Application are linked

A number of submissions notes that both the wind farm application and grid connection application are linked and therefore should be submitted as one application.

EIAR Chapter 1 (Introduction) describes both planning applications and explains why two applications are required for the project and notes the separate pieces of legislation under which both fall. Irish legislation requires two separate planning applications under Sections 37E and 182A of the Planning and Development Act, 2000, as amended, respectively. The single EIAR is fully compliant with the EIA Directive given that they are functionally integral.

It is acknowledged that the two applications are linked because they relate to a single project. This fact was included in the statutory notices.

2.2.5 Future Planning Applications

A submission from Fabian and Donna McMorro raises a concern that they may not be able to develop their land due to the presence of turbines.

In response, it is important to note that a comprehensive planning search was undertaken for the project, covering a 10 km radius around the proposed development site and including all relevant planning applications lodged between January 2016 and April 2026. All extant permissions and all live planning applications identified within this search area and timeframe were fully incorporated into the EIAR assessments. It is not known where future planning applications will be made, but this should not be considered as a valid reason not to grant permission for the proposed project, given the current climate emergency, the national climate objective and the need to construct more renewable energy projects to achieve the binding 2030 target of 80% of electricity from renewable sources. Without a formal application, in line with best practise guidelines for environmental assessment as listed in Chapter 1 (Introduction) of the EIAR, the applicant submits that hypothetical future planning applications are not an appropriate factor in An Coimisiún Pleanála's assessment of the proposed project and cannot sterilise land from development. For the purposes of the cumulative assessment, known proposed and existing developments were assessed.

2.2.6 Design Flexibility

A submission from Ian and Angeline Pudney and a submission from Joseph Sheerin expressed concerns around the applicant's use of "Design Flexibility" (Section 37CC of the Planning and Development Act, 2000, as amended). The submission authors are concerned that this level of flexibility undermines the certainty of the visual, noise, shadow flicker, ornithology and collision-risk assessments, because the actual turbines built could sit at the more impactful end of the envelope.

In response, design flexibility has been sought from An Coimisiún Pleanála for the turbine ranges used by the project (see EIAR Chapter 1 (Introduction) and ACP's design flexibility opinion in EIAR Appendix 1-4).

The exact combination of tip height, rotor diameter and hub height will be dictated by the final selection of the turbine make and model at turbine selection stage/pre-construction. All parameters within the design flexibility range for the project have been assessed within the EIAR.

Design flexibility has been discussed with An Coimisiún Pleanála at our project design flexibility meetings and was sought as these items cannot be confirmed prior to grant of planning. This is the purpose of Section 37CC (i.e. to facilitate the identification of details which are not confirmed at the application stage for large projects and to provide design parameters and associated assessment in respect of those). The provision of parameters, and the assessment of the likely significant effects of the various permutations within them allows ACP to undertake robust EIA and assess the full range of impacts and reach a reasoned EIA conclusion. It is confirmed that all likely significant effects arising from the various arrangements provided by these parameters have been fully assessed in the EIAR.

2.2.7 Communication with Northern Ireland

The proposed project is located in close proximity to the Northern Ireland border with County Fermanagh. A submission from Ian and Angeline Pudney states there was a lack of consultation with Northern Ireland.

In response, as part of the project development, an EIA Scoping Report was sent to relevant statutory and non-statutory bodies in both the Republic of Ireland and Northern Ireland in December 2024. This Scoping Report (see EIAR Appendix 1-1) was accompanied by a cover letter introducing the proposed project and inviting comments or observations. Fermanagh and Omagh District Council were consulted and a response was received to this scoping request (see EIAR Appendix 1-2). The Department for Infrastructure Northern Ireland and the Health and Safety Executive Northern Ireland were also consulted during the project scoping phase but no response was received from either organisation (see EIAR Chapter 1).

Prior to the project being submitted to An Coimisiún Pleanála, a *Notification in relation to proposed development that is likely to have significant effects on the environment of a Member State of the European Union or a state that is a party to the Transboundary Convention (the United Nations Economic Commission for Europe Convention on Environmental Impact Assessment in a Transboundary Context, done at Espoo (Finland), on 25 February 1991)* – Lissinagroagh Wind Farm, was submitted to Fermanagh and Omagh District Council, the Loughs Agency and the Northern

Ireland Environment Agency (NIEA) along with the project details and links to the submission documents on the project website.

Fermanagh and Omagh District Council have responded to the planning application submission, further emphasizing the applicant's consultation with them and their awareness of the project.

2.2.8 Oil spills from turbines

A submission from Karl Moore raises a concern regarding oil leaking from turbines.

In response, EIAR Chapter 7 (Land, Soils and Geology) notes any hydrocarbon or oil spills related to the maintenance of the proposed wind farm (access tracks, substation, turbines, etc.) has the potential to negatively affect the ground directly. There is potential for spills and leaks of oils from this equipment resulting in contamination of soils and subsoils.

However, as noted in the EIAR, the sensitivity of the soils and subsoils onsite is medium and the magnitude is negligible. Potential effects are therefore considered to be not significant, unlikely, short-term and negative due to the limited maintenance requirement and the proposed design standards applied i.e. bunding.

Site operatives will receive appropriate training, and materials will be available on site to immediately respond to any fuel or oil spill. An oil spill kit that includes absorbing pads and socks will be kept at the site and also in site vehicles and machinery.

The turbines used for the project will be of a modern design and will be constructed and maintained to the manufacturers guidelines, further reducing the risk of oil leaks.

2.2.9 Storm wind impacts on turbines

A submission from Rosemary Kerrigan notes a concern regarding the impact of future storms, in particular strong winds, on the project turbines.

In response, EIAR Chapter 12 (Climate) has considered and assessed the impact of future storm and climate changes on the project including storm winds. Given the nature of their use, wind turbines are designed to be placed in high wind environments and therefore significant research has gone into their ability to withstand extreme wind loadings.

The turbines used by the project shall be designed to the appropriate standards to account for the high wind loadings.

EIAR Chapter 12 (Climate) concludes there are no likely significant effects on the proposed project as a result of climate change hazards.

2.2.10 Other renewable energy technologies

A submission from Rita McNulty states that there should be a greater emphasis on other renewable energy technologies such as offshore wind, rooftop solar, grid reinforcement, energy storage, retrofitting and community energy systems. This submission author also states large quantities of available wind energy are currently being dispatched down because the system cannot use or store it effectively.

In response, not all areas in Ireland are suitable for wind energy development. The same can be said for other renewable technologies such as solar energy. Even those areas that are



considered suitable for wind energy, may have environmental or technical constraints when further studied which deem them not feasible for development. As discussed in EIAR Chapter 3 (Reasonable Alternatives), the project area is recognised as having a suitable wind resource for wind farm development.

The Sustainable Energy Authority of Ireland (SEAI) has produced a Wind Atlas which is a digital map of Ireland's wind energy resources. It provides detailed information on wind speeds in Ireland. This information is used in assessing the suitability of wind resources in specific areas.

SEAI state *"the goal of this map is to aid policy makers, local governments and community groups in the initial planning stages"*¹⁷. This approach ensures optimal utilization of available data to maximize Ireland's wind energy yield.

A wind speed above 7 m/s at turbine hub height is normally the minimum speed required for economic development¹⁸. The 2013 SEAI Wind Speed Atlas identifies the proposed wind farm site as having a wind speed of between 7.0 m/s and 8.2 m/s at 100 m above ground level, identifying the site as a candidate for wind energy.

With regards to wind farms being dispatched down due to system capacity, it is of note that grid constraints should not be seen as an impediment to granting permission for windfarms since a critical mass of projects with consent is a key enabler for further grid investment (and that there are various strategies in respect of the latter being advanced at present).

2.2.11 The reliance on mitigation measures

A number of submissions mention the large number of mitigation measures being relied upon by the project.

In response, this large wind farm project is classed as a Strategic Infrastructure Development (SID). SID wind farm developments of this nature require input and assessment by many specialist disciplines to complete an EIAR. For this project each specialist has proposed mitigation measures were required to protect the natural environment and local communities.

Mitigation measures are a natural part of the process for assessing wind farm developments and the mitigation measures proposed for the project (see EIAR Chapter 19 (Schedule of Mitigation Measures)) consider the EIA mitigation hierarchy steps of 1. *Avoid* (included in this project through embedded mitigation measures in the design and siting of infrastructure), 2. *Reduce/Minimise* (when complete avoidance is not possible), 3. *Restore/ Repair* (e.g. restoring habitats temporarily impacted by the construction phase), and 4. *Compensation/ Offsetting*.

Mitigation measures listed in the EIAR and project Natura Impact Statement (NIS) will be implemented and monitored throughout the construction, operational and decommissioning phases, should a grant of planning approval be received.

¹⁷ <https://www.seai.ie/renewable-energy/wind-energy/wind-atlas-map>

¹⁸ <https://teagasc.ie/rural-economy/rural-development/diversification/wind-energy/#:~:text=In%20Ireland%2C%20the%20average%20wind,speed%20required%20for%20economic%20development.>



2.2.12 Community Funds

The North Leitrim Sustainable Energy Community submission has highlighted that they have observed from experience that the distribution of “Community Funds” associated with large-scale renewable energy projects can often be a divisive factor as it can divide the community into beneficiaries, non-beneficiaries and those opposed to such grants in the first place and often fails to benefit those who bear the most impact from the development. They call instead for an approach that would facilitate community driven and decentralised energy generation. This approach will improve resilience, enhance energy security locally and support fairer energy outcomes.

In response EIAR Section 2.10 discusses the Community Benefit Proposal. As noted in Section 2.10 the proposed project has the potential to bring significant positive benefit to the local community. The project will contribute approximately € 1.2 to 1.5 million in annual rates to Leitrim County Council and a community benefit fund will be put in place for the lifetime of the project to provide direct funding to areas surrounding the project.

Projects which are successful in a RESS auction must comply with the Rulebook for Community Benefit Funds Under RESS¹⁹. For this project, depending on the number and details of any turbines permitted, it is expected that a significant annual community benefit fund of over €500,000 per year for the first 15 years of the project will be established in line with Government policy which will include funding for both wider community initiatives and a Near Neighbour scheme focused on houses in close proximity to the project.

For the remaining lifetime of the wind farm, the Applicant commits to contributing an additional €1/MWh, which is estimated to be over €250,000 per year. Therefore, over the expected 35-year lifetime of proposed project, the Community Benefit Fund will be in the order of €12.5 million. The Applicant has committed to providing a community benefit fund on similar terms, regardless of participation in RESS or other route to market.

The Community Benefit Fund belongs to the local community. The premise of the fund is that it should be used to bring about significant, positive change in the local area. To make this happen, a benefit fund development working group will be formed that clearly represents both the closest neighbours to the project as well as nearby communities. This group will then work on designing the governance and structure of a community entity that will decide what type of projects will be supported by the fund and manage the administration of the Community Benefit Fund. In accordance with the Rulebook mentioned above, the Fund will deliver initiatives that are in alignment with the UN Sustainable Development Goals.

2.2.13 Met Mast Applications

A submission from Joseph Sheerin raises a concern regarding a planning application for a meteorological mast made in 2021 and the met mast which forms part of the project planning application. Mr Sheerin notes that the mast location has moved.

¹⁹

https://assets.gov.ie/static/documents/Rulebook_for_CBFs_under_RESS_branded.pdf<https://www.gov.ie/en/publication/36d8d2-renewable-electricity-support-scheme/> [Accessed April 2026]



In response, the relocation of a temporary met mast to a permanent location is expected on a wind farm project as site designs and lands evolve from development to construction to operation. In relation to the 2021 application, this met mast application was withdrawn on the 21st of April 2022.

The met mast which forms part of the project application and assessed as part of the EIAR is detailed in EIAR Chapter 2 (Description of the Proposed Project). It is proposed to install a permanent meteorological mast, 100 m in height, east of the substation and west of turbine T12. The met mast will be equipped with wind monitoring equipment at various heights to provide wind data to the wind farm operator.

As noted in EIAR Chapter 2 (Description of the Proposed Project) the mast will be a slender, free-standing lattice structure with a lightning finial extending above it and will be constructed beside a hardstanding area of 40 m x 15 m, which will be used to erect the mast. This is as shown on Planning Drawing 10955-2036.

2.2.14 Cumulative Assessment Concerns

A submission from Joseph Sheerin raises a concern that the EIAR does not adequately address the cumulative impact of the proposed wind farm with Faughery Wind Farm, adjacent forestry, existing roads, previous mast works, the current permanent mast proposal, other wind energy proposals and wider grid infrastructure.

In response, EIAR Chapter 1 (Introduction) sets out the EIAR cumulative assessment approach. The EIAR examines the cumulation of effects with other existing and/or approved plans and projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.

To gather a comprehensive view of cumulative effects and to inform the EIA process being undertaken by the consenting authority, each relevant chapter within the EIAR includes an assessment of likely significant cumulative effects, where appropriate.

A 10 km planning search (between January 2013 – April 2026) has been completed to identify relevant projects and developments currently within the planning system. A 10 km search of An Coimisiún Pleanála's planning database and local authority planning databases was undertaken. This distance is sufficient to capture the zone of influence or study area for all EIAR chapter studies with the exception of Landscape and Visual Impact Assessment. The results of this planning search are presented in EIAR Appendix 1-6.

This planning search was further expanded to 20 km (the study area for the Landscape and Visual Impact Assessment), see EIAR Chapter 13 (Landscape and Visual Impact Assessment) to capture any projects or developments which may influence the Landscape and Visual Impact Assessment. All wind farm developments within 20 km of the proposed wind farm site, including Faughery Wind Farm, are presented on EIAR Figure 1-2 and were considered by the EIAR team in their assessments and conclusions.

2.2.15 Client understanding of the project

A submission from Paul Keogh has stated that the Applicant does not understand the project.

In response, it is not correct to say that the Applicant does not fully understand the project. Any limitations in knowledge or data, where such exist, are clearly set out and addressed in the relevant sections of the EIAR, following best practice and guidelines for EIA.

2.2.16 Coillte/EirGrid / Foreign Investment Funding

A submission from Padraic McGowan objects to this project and *'its dependence of Unethical Foreign Investment Funding Instruments funding this project to create wealth for their investors and pension payouts particularly when the Irish State is going to be relied on to provide RESS (Renewable Energy Support Scheme) 15 year Guarantee of Circa €22 Million / annum to these foreign Investment Funds to underpin their risks in the project and return profit for their investment whilst cannibalising the landscape of North Leitrim with such large sums of State Aid'*.

The submission also states the project is *not viable without breach of State Aid Rules where the Government funds itself and its semi state bodies i.e. Coillte and EirGrid in preference to the citizen resident and distorts local and regional economic activity of solar generation and is in breach of European Commission State Aid Rules Articles 107 and 108 of the Treaty on the Functioning of the European Union*.

The submission also notes the scale and capacity of this wind farm in this scenic landscape is not required to meet national energy objectives especially when EirGrid cannot take the current capacity and there is reserve generating capacity standing by in Northern Ireland that will be available through the Moyne Interconnector to the Republic of Ireland.

In response, as custodian of 7% of Ireland's land, Coillte plays a critical role in tackling climate change through the active management of its land and forest resources and the manufacture of sustainable forest products. Coillte's portfolio of proposed wind farm projects and its Renewable Energy division transferred to FuturEnergy Ireland in Q4 2021. FuturEnergy Ireland is part of the company's wider strategic plan and commitment to creating a sustainable future. ESB, through its Brighter Future strategy, is furthering its investment in and commitment to onshore wind generation in Ireland, one of the main technologies underpinning the clean electricity systems that will power our societies into the future. Combining the Irish State's strongest assets and expertise in renewable energy development, FuturEnergy Ireland's mission is to maximise the potential of our unique wind and land resources and accelerate Ireland's transformation to a low carbon energy economy²⁰.

The proposed development is intended to address the critical issue of the climate emergency by providing secure, locally generated electricity from renewable sources in line with local, regional, national and international policy. Subject to a positive planning determination, the project will need to find a route to market for any electricity generated - this is either through the Renewable Electricity Support Scheme which is run by the government or through a private commercial agreement.

The annual average wholesale price of electricity since 2021 ranges from €108.91 per MWhr to €226.53 per MWhr with average for 2026 year to date at €135.92 per MWhr²¹. The most

²⁰ <https://futureenergyireland.ie/about/>

²¹ <https://kilowatt.ie/wholesale-electricity-prices-ireland/>



recent RESS auctions²² indicate an average price for onshore wind ranging from €90.47 per MWhr to €96.56 per MWhr or up to €100.47 per MWhr in previous years when the onshore wind and solar price was given as a combined average. This demonstrates that onshore wind is providing electricity through the RESS process at a rate that is cheaper than the wholesale price of electricity, providing savings to consumers on their electricity bills. A recent report by Baringa²³ shows that in 2025, 13.8 terawatt-hours (TWh) of wind generation displaced more than €1.4 billion worth of gas and carbon costs across island of Ireland.

In relation to state aid: 'On 20 July 2020, Ireland received State aid approval from the European Union to operate a Renewable Electricity Support Scheme (RESS) out to 2025. The European Commission assessed the scheme under EU State aid rules, in particular under the 2014 Guidelines on State aid for environmental protection and energy. The European Commission concluded that the Irish RESS is in line with EU State aid rules, as it promotes the generation of electricity from renewable sources, in line with the European Green Deal, without unduly distorting competition.'²⁴

2.2.17 Community life and population impacts

Concerns relating to community life, in particular the potential reduction in the local population as a result of the proposed project, were raised in a number of submissions. These concerns referred to potential decline in local population or potential discouragement of future settlement in the area, with 'community sterilisation' being referenced a number of times, and another submission noting that the village is beginning to regain its population due to its natural amenities.

Whilst these concerns are acknowledged, the proposed project has in fact the potential to bring significant positive benefits to local communities through the provision of a Community Benefit Fund (proposed in line with industry best practice, which is in accordance with the terms and conditions of the Government's Renewable Electricity Support Scheme (RESS)). The Lissinagroagh Wind Farm Community Benefit Fund proposal is described out in EIAR Section 2-10.

The Lissinagroagh Community Benefit Fund will be positive for those residing in the local area. Those living in closest proximity should be priority beneficiaries and as such some of the fund is designated for 'Near Neighbour' payments. However, broader community benefits apply as well. As mentioned in Section 2.3.12, a Community Benefit Fund has been pledged by the applicant. It is expected that a significant annual community benefit fund of over €500,000 per year, for the first 15 years of the project, will be established in line with Government policy which will include funding for both wider community initiatives and a Near Neighbour scheme focused on houses in close proximity to the proposed project. For the remaining lifetime of the wind farm, the Applicant commits to contributing an additional €1/MWh, which is estimated to be over €250,000 per year. Therefore, over the expected 35-year lifetime of proposed project, the Community Benefit Fund will be in the order of €12.5 million. Support from the Community

²² [RESS | Customer information | EirGrid](#)

²³ <https://windenergyireland.com/images/files/baringa-wei-cutting-carbon-cutting-bills-2025.pdf>

²⁴ <https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/renewable-electricity-support-scheme-ress/>



Benefit Fund, and improved community facilities associated with the fund, has the potential to make the local area attractive for people to locate to, which may result in an increase in local population numbers.

As described in Chapter 4 (Population and Human Health) of the EIAR, the establishment of a Community Benefit Fund will be a long-term positive contribution to the local community. The impact of the Community Benefit Fund is likely to enhance the local economy, with potential for substantial funding for local projects in support of relevant UN Sustainable Development Goals (SDGs), clubs, charities and near neighbours, which will be invested in the local area. This aspect of the proposed project will have a positive long-term effect on the individuals living in the local community, including contributing to a positive effect on individuals' physical and psychological health through the development of community led projects and maximising the level of local involvement in terms of influencing how the funds are spent.

It is not anticipated that the proposed project will have a significant effect on population trends locally or in County Leitrim. Considering the other projects in the area, it is also not anticipated that the proposed project will have a significant cumulative effect under the topic of population trends. There is a potential positive cumulative effect in terms of population trends in the event of increased investment in the area from the Community Benefit Fund.

2.2.18 Tourism and Economy

Multiple submissions raised concerns regarding potential impacts on tourism and local economy as a result of the proposed project. In summary, concerns included:

- The local / county / regional tourism industry is reliant on the regions natural amenity and landscape, including mountains and trails, which would be impacted by the presence of the turbines;
- The perception / image of the area would be impacted, weakening of the areas appeal, industrialisation of the landscape;
- The tourism, eco-tourism, wildlife tourism, culture, heritage and arts industries in Leitrim / North Leitrim will be affected and businesses and income will be impacted;
- Tourism will be reduced / tourism growth will be impacted. The tourism industry is currently growing, and the area is beginning to recover economically, which could be impacted by the presence of the wind farm;
- Impacts on recreational activities including fishing/angling, caving, walking and cycling;
- Lack of detailed engagement with Kiltyclogher Community Council in relation to tourism / tourism economy;
- Omission or lack of consideration of tourist attractions (existing / planned / proposed) within the EIAR, including:
 - Approved campervan and tent site adjacent to Kiltyclogher Community Centre. This project has successfully received planning approval and will shortly begin construction.
 - Proposed walking route from Seán Mac Diarmada's Cottage towards Thur Mountain.
 - Kiltyclogher playground and Fair Green improvements.
 - Walking route ambitions.

- Kiltyclogher Holiday Accommodation Centre.
- The proposed project is at odds with Leitrim County Council's Leitrim Tourism Strategy 2023-2027 and Leitrim's Recreation Strategy 2023-2032.

As detailed in Section 4.3 of EIAR Chapter 4 (Population and Human Health), there are several popular tourism attractions and public amenities in County Leitrim. Adjacent to Manorhamilton and closer to the study area there are several cycling and walking tracks and loops. However, the proposed works are not envisaged to directly interact with such amenities and attractions. The nearest visitor site identified is approximately 4 km away in Manorhamilton village. The closest trails/walks identified to the proposed wind farm site are approximately 4.5 km from the proposed wind farm site. None of the five most visited tourist sites in Leitrim (referenced in Section 4.2.3.6 of Chapter 4 (Population and Human Health) of the EIAR) are within 5 km of the proposed wind farm site. Furthermore, no existing designated tourist sites or walkways/trails were identified as intersecting with or within the wind farm application boundary.

With regards to construction phase effects, as outlined in Section 4.4.2.1.6 of Chapter 4 (Population and Human Health) of the EIAR, intermittent and temporary traffic effects due to movement of vehicles, plant and machinery related to the proposed project, and the requirement for abnormal loads related to the delivery of the turbines to site, may impact local road traffic as a result of increased road traffic movements. Abnormal loads will occur at set times at night time and along designated routes (see Section 16.5.4 of Chapter 16 (Traffic and Transportation) of the EIAR). There is potential for effects to local and tourist road users in the area during these periods, however they are to occur on off peak hours and for a brief time therefore it is not considered to have an impact on tourist related traffic.

It is considered that the construction works will only have a slight temporary impact on the tourism facilities within the county. There is relative distance between the proposed wind farm site and tourism sites within Leitrim. Measures to be employed by the appointed Contractor during the construction works to ensure the health and safety of tourists and the general public are outlined in the Construction Environmental Management Plan (CEMP) in Appendix 2-4 of the EIAR.

No other direct effects on tourism activity are anticipated during the construction phase.

With regards to the operational phase, proposed wind farm will be visible from some features in both Ireland and Northern Ireland (as discussed in EIAR Chapter 13 (Landscape and Visual) of the EIAR). Owing to the separation distance from the Northern Ireland border and the intervening landform, which heavily reduces both the perceived scale and spatial extent of the proposed project from receptors within Northern Ireland, the potential for transboundary landscape and visual effects is limited. Thus, transboundary effect are assessed as not significant.

As noted in Chapter 4 (Population and Human Health) of the EIAR, there are public amenities in Manorhamilton however they do not interact significantly with the proposed wind farm site study area. The most visited tourist locations in Leitrim (Hag's Leap, Glencar Waterfall, Parkes Castle, Creevelea Friary and Drumshanbo) are in excess of 5 km away from the wind farm site.

Chapter 4 (Population and Human Health) of the EIAR outlines recent available survey data in relation to Tourism and wind farms. Fáilte Ireland and the Northern Ireland Tourist Board

surveyed tourists' perceptions in relation to wind farms in the Irish landscape in 2007 and 2012, and the results were positive, with approximately 80% of tourists considering the presence of wind farms to either have no impact or a positive impact on their sightseeing. In addition, when asked if further wind farm development in Ireland would influence their decision to holiday in Ireland again, over 70% of responses cited no impact or a positive impact on their return to Ireland. Similarly, the 2017 study carried out by BiGGAR Economics examined the link, if any, between onshore wind energy development and the sustainable tourism sector in Scotland. The report did not find a direct relationship between tourism and the wind energy sector in itself; however, it did conclude that the increase in wind farm development did not negatively impact employment in the sustainable tourism industry in Scotland (BiGGAR, 2017).

Therefore, the proposed project is not anticipated to have a significant impact on tourism in the local area or wider region during the operational phase.

2.2.19 Property Values and Residential Amenity

2.2.19.1 Property Values

Several submissions raised concerns regarding potential property devaluation as a result of the proposed project. Based on the relevant literature discussed in Chapter 4 (Population and Human Health) of the submitted EIAR, it is reasonable to conclude that neither the construction phase, nor the operational phase, of the proposed project will have any significant effect on local property values.

As detailed in Chapter 4 (Population and Human Health) of the EIAR, currently, there is one Irish based study available which has looked at the effect of wind farms on property values within the Irish context (Gillespie & McHale, 2023). This study concluded that there are “*no significant reduction in house prices beyond 1 km*” and that any effects in relation to property prices occurring within the 0-1 km radius were not persistent and were seen to diminish over the operational lifetime of the wind turbines.

2.2.19.2 Residential Amenity

Several submissions raised concerns regarding the potential loss of residential amenity as a result of the proposed project. In summary, concerns related primarily to:

- Residents proximity to the turbines / proximity to engineering works / measurements were measured at the centre of their house and not their nearest wall;
- Impacts on future development at properties / land;
- Loss of peace and quiet at residences; and
- Landscape impacts affecting residential amenity enjoyment etc.

With regards to construction phase effects, as outlined in Section 4.4.2.1.3 of the EIAR, the design of the proposed wind farm site has included a minimum set-back distance of 740 m from the curtilage of the nearest residential receptor to the proposed turbine locations which will reduce the potential for the wind turbine infrastructure to have a significant effect on residential amenity. The closest borrow pit location is c. 550 m from a residential property and access road works will take place at a minimum distance of c. 250 m from the nearest residential building. Effects impacting on residential amenity (e.g. dust, noise, traffic) are assessed in detail

in Chapter 9 (Noise and Vibration), Chapter 11 (Air Quality) and Chapter 12 (Climate) of the EIAR. Overall, based on the predicted effects outlined in Chapter 4 (Population and Human Health) of the EIAR (inc. in relation to dust, noise, road traffic etc.), and given the distance between sensitive property receptors and the proposed wind farm site, significant impact on sensitive property receptors and residential amenity associated with the construction phase of the proposed wind farm are unlikely. Any likely effects on property receptors / residential amenity in the area will be direct, negative, slight, and short-term.

With regards to operational phase effects, as outlined in Section 5.4.2.2.3 of the EIAR, the locations of the proposed turbines have been carefully designed with cognisance of the local population and receptor locations. In accordance with the 2006 Wind Energy Development Guidelines (WEDGs), there are no turbines located within 500 m of a residential property. Extensive consideration has been given to the layout of the site and the positions of the turbines in ensuring sufficient set-back distances from sensitive receptors and adjustment for noise (see Chapter 9 of the EIAR), shadow flicker (see Chapter 10 of the EIAR), visual impact (see Chapter 13 of the EIAR), and telecommunication impacts (see Chapter 15 of the EIAR).

The Draft 2019 WEDGs recommend a minimum setback distance of four times the tip height ($185 \text{ m} \times 4 = 740 \text{ m}$) from a proposed turbine to the curtilage of any residential property. The proposed project complies and exceeds with this recommendation by establishing a minimum 740 m setback, with the closest sensitive receptor at over 760 m.

These considerations during the design, planning and EIA phase, in accordance with the relevant guidelines, are designed to minimise the potential effects on property receptors and residential amenity from the proposed wind farm.

Significant effects on local property receptors and residential amenity during the operational phase is unlikely. Any likely effects in terms of property receptors and residential amenity during the operational phase are therefore considered to be negative, slight, and long-term.

The Lissinagroagh Wind Farm Community Benefit Fund, estimated to be worth € 12.5 million over the lifetime of the project, will be established, which will be positive for those residing in the local area. The potential effects on human beings at their residences during the operational phase are assessed in the following chapters: Chapter 4 (Population and Human Health), Chapter 11 (Air Quality), Chapter 9 (Noise and Vibration), Chapter 13 (Landscape and Visual) and Chapter 16 (Traffic and Transportation).

2.2.20 Health and Wellbeing

Several submissions raised concerns regarding potential impacts and/or cumulative impacts on health and mental health and wellbeing as a result of the proposed project, including stress, anxiety, reduced quality of life (loss of peace/quiet, and loss of enjoyment of home or area), headaches, sleep impacts, epilepsy. In summary, these concerns primarily related to the following:

- Construction noise, dust and road works;
- Noise / operational noise / low frequency noise;
- Shadow Flicker / lighting / blade movement;
- Industrialisation of this environment;

- Traffic movements / Night-time abnormal-load deliveries;
- Loss of amenity and impact on community leisure and wellbeing;
- Impacts on property values;
- Impact on natural carbon sink;
- Visual Impacts / Impacts on quiet rural setting;
- Size and scale of the proposed project / visual dominance in the area; and
- Presence of commercial forestry and existing turbines within the wider landscape.

Submissions raised concern in relation to cumulative impacts or wanting more cumulative impact assessment and potential interaction of effects of these on homes, farms, local roads, water supplies and daily life.

As highlighted in Section 4.4.3 of EIAR Chapter 4 (Population and Human Health), the health assessment conducted as part of the EIAR concluded that for the construction phase of the proposed project, there will be no likely significant effects. Section 4.4.3 of the submitted EIAR also assessed the potential human health effects that may occur during the operational phase. The following areas were assessed:

- Air quality and Dust;
- Noise and Vibration;
- Water Quality;
- Land and Soil;
- Traffic; and
- Wind Turbine Health Effects (including noise and infrasound, electromagnetic interference, and shadow flicker).

It was concluded for each of these items that no likely significant adverse human health effects will occur as a result of the proposed project following the implementation of the proposed mitigation measures. Furthermore, the contribution of the proposed project to a decrease in reliance on fossil fuel combustion will have a moderate positive long-term effect on the health and well-being of the general population.

Section 4.3.3.4 of Chapter 4 (Population and Human Health) of the EIAR provided an overview of relevant research, including a review of studies from Australia, Canada, the UK and other European countries. The research found that wind farms have no associated direct pathological effects on human health, and that any potential impact can be minimised by following planning guidelines. Notable studies discussed in Chapter 4 (Population and Human Health) of the EIAR include a 2014 meta study by Knopper *et al.*, in 2014 and a study by Health Canada in 2014 which both found no links between wind farms and numerous health conditions. As outlined in Section 4.6.2 of Chapter 4 (Population and Human Health) of the EIAR, based on the literature reviewed, there is currently no reliable evidence to link wind turbines to adverse health impacts.

2.2.20.1 Shadow Flicker

Several submissions raised concerns surrounding the potential for shadow flicker (and turbine related movements) to adversely affect the health of vulnerable individuals, including those with epilepsy. As described in Chapter 4 (Population and Human Health) of the EIAR, the UK Wind Energy Guidance Note, prepared in the UK for the Renewables Advisory Board and

Department for Business, Enterprise and Regulatory Reform (BERR) in 2007, addressed the question whether the shadow flicker from wind turbines can cause effects on human health. It was found that the frequency at which photosensitive epilepsy may be triggered generally is between 2.5 and 30 flashes per second (hertz). Most commercial wind turbines in the UK rotate at between 0.3 and 1.0 hertz, giving health effects arising from shadow flicker little potential to occur.

Turbine shutdown mitigation measures, as set out in Section 10.5 of Chapter 10 (Shadow Flicker) of the EIAR, will ensure that there are no significant residual effects of shadow flicker from the proposed wind farm and the identified cumulative development (Faughary Wind Farm), on the identified receptors within ten rotor diameters irrespective of which turbine is selected within the turbine range. These mitigation measures will virtually eliminate the potential effect on dwellings in the surrounding areas through the use of turbine control mechanisms.

2.2.20.2 Vulnerable Groups

A number of submissions raised concerns specifically relating to health effects of vulnerable groups (i.e., those with photosensitive epilepsy or those requiring mental health services). As outlined in Chapter 4 (Population and Human Health) of the EIAR, every community will have vulnerable individuals, however, the health status of the community can only be established to a certain level (i.e., small area statistics). It is not possible or necessary to identify every vulnerable individual. As described in Chapter 4 (Population and Human Health) of the EIAR, it is important to note that the Health Standards are set for the vulnerable and not for the robust. Emission limits and management, such as for noise or dust, allow for the protection of the most vulnerable, so as long as the limits are met, vulnerable individuals and the wider community are protected. Emissions arising from the construction, operational, and decommissioning phases of the proposed project (i.e., air, dust, noise and vibration) are predicted to fall below the limits and/or thresholds set, therefore it is anticipated that significant adverse effects on health, even amongst the vulnerable, are unlikely.

A concern was raised surrounding the potential for shadow flicker to adversely affect the health of vulnerable individuals, such as those with epilepsy. As mentioned above, Turbine shutdown mitigation measures, as set out in Section 10.5 of Chapter 10 (Shadow Flicker) of the EIAR, will ensure that there are no significant residual effects of shadow flicker from the proposed wind farm and the identified cumulative development (Faughary Wind Farm), on the identified receptors within ten rotor diameters irrespective of which turbine is selected within the turbine range.

2.2.21 Agriculture / Farming / Animal Welfare

A number of submissions raised concerns relating to the potential impacts on agriculture, within one submission concerned that farming activity would be severely impacted by construction activities, leading to loss of income for farming families. Another submission was concerned about horse / equine health.

In response, we note that the lands adjacent to and surrounding many wind farms across the country are utilised for farming and by animals / livestock. There is no scientific evidence that

wind turbines have a negative impact on domesticated animals or farm animals grazing in close proximity. Wind farms and animals frequently coexist, for example cattle grazing safely around turbine bases. The proposed project will adhere to all applicable animal welfare and environmental protection standards, and the applicant remains committed to ongoing engagement with local farmers and stakeholders to address any concerns.

In terms of agriculture and farming, the land use/activities on the proposed wind farm site are primarily commercial forestry, with some areas of pastoral agriculture. The surrounding landscape is a mixture of agricultural land and forestry. Necessary forestry and agricultural activity will be able to continue on the wider proposed wind farm site during the construction phase.

At the end of the operational phase, the wind turbines will be removed and the land use will revert back to forestry, agriculture or unused land (unless further consent is obtained for the land such as planting forestry or repowering the wind farm, see Chapter 2 (Description of the Proposed Project) for further details on decommissioning).

There will be no other anticipated effect on land use outside the proposed wind farm site.

2.2.22 Health and Safety

There was concern raised with regard to security and people having access to the proposed wind farm, particularly at night time.

Measures to be employed by the appointed Contractor during the construction works to ensure the health and safety of tourists and the general public are outlined in the Construction Environmental Management Plan (CEMP) in Appendix 2-4 of the EIAR.

All activities carried out by the appointed Contractor on the proposed wind farm will be in accordance with the requirements of the *Safety, Health and Welfare at Work Act 2005* as amended and Regulations made under this Act. The CEMP (Appendix 2-4 of the EIAR) sets out the Health and Safety requirements for the project including the erection of fencing, signage and notification of commencement of works to the Health and Safety Authority (HSA).

With adherence to the proper health and safety guidelines throughout the construction phase of the proposed wind farm, significant adverse effects in terms of health and safety related to construction phase are considered unlikely.

Health and safety plans will be developed prior to any construction taking place. A Health and Safety Plan covering all aspects of the construction process will outline Health and Safety requirements in detail, with all hazards and risks identified and assessed. The potential for health and safety and environmental related risks / effects will be greatly minimised through compliance with appropriate health and safety guidelines and the CEMP throughout the construction phase.

2.2.23 Hydrological Connectivity to SACs

A number of concerns were raised by Third Parties regarding the hydrological connectivity between the proposed wind farm site and downstream SAC's.

The applicant acknowledges that the proposed wind farm site is hydrologically connected to downstream SACs, specifically Lough Gill SAC, Lough Melvin SAC and Lough Melvin SAC (Northern Ireland (NI)).

Detailed consideration has been given within the Appropriate Assessment Screening Report and Natura Impact Statement (NIS) to the potential for likely significant effects on European sites and, where relevant, the potential for adverse effects on the integrity of those sites.

In particular, Lough Gill SAC, Lough Melvin SAC, and Lough Melvin SAC (NI) were screened into Stage 2 Appropriate Assessment, and a detailed assessment of the potential for adverse effects on the SAC, having regard to the conservation objectives for each site, is provided in Section 5.1.1.11, Section 5.1.1.12 and Section 5.1.1.13 of the NIS, respectively.

Section 5.2 of the NIS summarises the mitigation measures for the protection of water quality and downstream Qualifying Interests. For a more detailed assessment on mitigation measures for the protection of water quality refer to EIAR Chapter 8 (Hydrology and Hydrogeology) Section 8.5. With the proposed mitigation measures in place, the NIS concludes that the proposed development will not adversely affect the integrity of the European sites considered, having regard to their conservation objectives, either alone or in combination with other plans or projects (NIS Section 7).

Accordingly, the potential effects arising from hydrological connectivity to Lough Gill SAC, Lough Melvin SAC and Lough Melvin SAC (NI), including potential effects on relevant Qualifying Interests, have been assessed within the AA/NIS having regard to the conservation objectives of the respective European sites and the potential for effects in combination with other plans or projects.

Consideration of the relevant hydrological pathways and baseline aquatic environment has also been provided (EIAR Chapter 5 (Biodiversity) Section 5.4.1.5).

EIAR Chapter 5 (Biodiversity) Section 5.5 Embedded Mitigation provides a clear demonstration of avoidance measures for the protection of biodiversity inclusive of water quality, namely;

- All turbines are located at a distance greater than 50 m from watercourses;
- No in-stream works are proposed along the GCR, TDR or within the proposed wind farm site; and
- Turbines, borrow pits, compounds and substation are not located within 30 m of any known karst features (dolines etc) or 100 m of swallow holes.

The potential for likely significant effects on aquatic ecology, including salmonids, resulting from the degradation of water quality has been thoroughly considered (EIAR Chapter 5 (Biodiversity) Section 5.6.2.10). Targeted mitigation measures have been proposed to further reduce the potential for negative effects on aquatic ecology (EIAR Chapter 5 (Biodiversity) Section 5.6.2.1.4).

The hydrological connectivity within the receiving environment, including downstream waterbodies has also been considered within the EIAR Chapter 5 (Biodiversity), specifically Lough Gill SAC (Section 5.6.2.1.1.3), Lough Melvin SAC (Section 5.6.2.1.1.4), and Lough Melvin SAC (NI) (Section 5.6.2.1.1.5). Water quality mitigation measures for the protection of downstream SACs are summarised in EIAR Chapter 5 (Biodiversity) Section 5.6.2.1.4.

In addition, EIAR Chapter 5 – Biodiversity addresses potential for likely significant effects on Lough Melvin Area of Special Scientific Interest including the potential siltation and contamination of watercourses (EIAR Chapter 5 (Biodiversity) Section 5.6.2.2.2). Consideration was given to distinct sub-species of trout: sonaghen (*Salmo nigripinnis*), gillaroo (*Salmo stomachicus*) and ferox (*Salmo trutta*), as well as other local populations of fish within the lake including Atlantic salmon and the Arctic charr (*Salvelinus alpinus*) populations within Lough Melvin (EIAR Chapter 5 (Biodiversity) Section 5.6.2.2.1). With the proposed water protection measures in place, it was concluded that no likely significant effects at any geographic scale are anticipated on the sensitive ecological receptors of Lough Melvin ASSI as a result of the proposed project.

The potential for likely significant effects on aquatic ecology resulting from the proposed Grid Connection Route has been assessed throughout EIAR Chapter 5 (Biodiversity). Consideration was given to aquatic sample sites along the Grid Connection Route (Aquatic Site 12-28) inclusive of the two proposed off-road Horizontal Directional Drilling sites (Aquatic Site 15 and 22) in EIAR Chapter 5 (Biodiversity) Section 5.6.2.10.

It is therefore considered that the concerns raised regarding hydrological connectivity and the potential risk to downstream SACs, specifically Lough Gill SAC and Lough Melvin SAC, have been appropriately addressed within the EIAR Chapter 5 (Biodiversity). Transboundary effects have also been considered (EIAR Chapter 5 (Biodiversity) Section 5.11) with specific reference to Lough Melvin SAC (NI) (EIAR Chapter 5 (Biodiversity) Section 5.6.2.1.1.5) and Lough Melvin ASSI (EIAR Chapter 5 (Biodiversity) Section 5.6.2.2.2).

Accordingly, the concerns raised regarding potential effects on aquatic ecology and downstream European sites have been appropriately addressed within EIAR Chapter 5 (Biodiversity) and the AA/NIS.

2.2.24 Dough/Thur Mountain NHA

Concerns have been raised regarding the potential effects of the proposed project on Dough/Thur Mountain NHA and the biodiversity it supports. NHAs are subject to statutory protection under the Wildlife (Amendment) Act 2000, including controls on works liable to damage or interfere with the features for which an NHA is designated under Section 19.

There are no works proposed within the boundaries of Dough/Thur Mountain NHA as part of the proposed project. Section 5.6.2.2.1 of EIAR Chapter 5 (Biodiversity) assesses the potential for effects on the NHA, including potential habitat degradation associated with peat instability, drainage and dust deposition. The assessment concludes that Dough/Thur Mountain NHA is located outside the identified Zone of Influence for effects associated with dust deposition and drainage. The potential for peat instability as a result of the proposed project is examined with respect to the proposed works as outlined in full in Chapter 7 (Land, Soils and Geology), EIAR Appendix 7 -1.

Concerns were raised about the wildlife supported by Dough/Thur Mountain NHA. Section 2.2.26 of this submission response report addresses protected species.



On this basis, it is considered that the concerns raised regarding potential negative effects on Dough/Thur Mountain NHA have been appropriately addressed within EIAR Chapter 5 (Biodiversity).

2.2.25 Peatlands (Biodiversity)

Concerns have been raised regarding the potential for adverse effects on peatland habitats. A combined total of 38.83 ha of Upland blanket bog (PB2) is present within the wider survey area of the proposed wind farm site (EIAR Chapter 5 (Biodiversity), Section 5.4.2.1.27). The survey area is the area where ecological field surveys were undertaken by specialists for each ecological feature. Of this 38.83 ha, 0.55 ha of Upland blanket bog (PB2) and 0.89 ha of Cutover bog (PB4) will be directly lost as a result of the proposed project.

EIAR Chapter 5 (Biodiversity) Section 5.5 lists various aspects of project design which have avoided direct impacts on sensitive Important Ecological Features (IEF). Of particular relevance is the third bullet point which identifies the siting of T3, T4 and T10 to avoid direct impacts from habitat loss on the priority Annex I habitat type 7130 *Blanket bog (active) as well as indirect effects associated with drainage. Chapter 5 (Biodiversity) concludes that there will be no likely significant effect at any geographic scale on Annex I habitat type 7130 *Blanket bog (active) in the local vicinity of T3 (EIAR Chapter 5 (Biodiversity) Section 5.6.2.3.16).

Annex I habitats assessed as being in unfavourable condition are degraded and subject to persistent and ongoing threats associated with current land management practices such as overgrazing. The extent of Annex I habitat loss is limited to these habitats assessed as being in unfavourable condition. A total of 3.54 ha of Upland blanket bog (PB2) has been identified as having the potential to undergo indirect degradation associated with drainage and dust deposition. As such, the potential impacts on peatland habitats are highly localised and represent a relatively limited proportion of the peatland resource identified within the survey area.

In this context, the proposed compensatory measures are considered proportionate to the limited residual effect associated with the losses. A total of 5.4 ha of Upland blanket bog (PB2) and Wet heath (HH3) will be managed for biodiversity (EIAR Chapter 5 (Biodiversity) Section 5.7). Furthermore, the Outline Biodiversity Management Plan provides the opportunity to deliver biodiversity management across a larger area, with a total area of 218.4 ha (Chapter 6 (Ornithology) Appendix 6-13).

The potential for peat instability as a result of the proposed project is examined with respect to the proposed works as outlined in full in Chapter 7 (Land, Soils and Geology), EIAR Appendix 7 - 1 – Peat Stability Risk Assessment. A summary of the mitigation measures proposed for peat instability is provided in EIAR Chapter 5 (Biodiversity) Section 5.6.2.2.1.4.

2.2.26 Protected Species

The potential for likely significant effects on protected species has been set out in EIAR Chapter 5 (Biodiversity) with specific reference to:

- Section 5.6.2.6 Amphibians and Reptiles;
- Section 5.6.2.7 Terrestrial Mammal Species;



- Section 5.6.2.8 and Section 5.6.3.8 Bat Species;
- Section 5.6.2.9 Invertebrates; and
- Section 5.6.2.10 Aquatic Ecology.

In summary, while potential pathways for likely significant effects exist, the combination of the proposed project design, mitigation measures, and compensation measures ensure that the Proposed Project is anticipated to result in no significant overall residual effects on the conservation objectives of Important Ecological Features.

2.2.27 Terrestrial Mammals

The results of field surveys for terrestrial mammals are compiled in EIAR Chapter 5 (Biodiversity) Section 5.4.2.4. The potential for likely significant effects on otter is assessed in EIAR Chapter 5 (Biodiversity) Section 5.6.2.7.1, including habitat loss, degradation of water quality, and disturbance/displacement. Similarly for badger the potential for likely significant effects is assessed in EIAR Chapter 5 (Biodiversity) Section 5.6.2.7.2, including habitat loss and disturbance/displacement. The impact of the proposed project on other small mammals is presented in EIAR Chapter 5 (Biodiversity) Section 5.6.2.7.5.

2.2.28 Amphibians

Specific concerns were raised over smooth newt. Although field surveys did not yield positive results, the precautionary principle was applied, and the presence of smooth newt was assumed within typical supporting habitats for the species.

Specific consideration was given in the impact assessment to the potential for likely significant effects on the species including incidental mortality, habitat loss and habitat degradation (EIAR Chapter 5 (Biodiversity) Section 5.6.2.2).

Similarly, the potential for likely significant effects on common frogs (Section 5.6.2.6.1) and common lizard (Section 5.6.2.6.3) are also addressed within EIAR Chapter 5 (Biodiversity).

2.2.29 Marsh Fritillary

Objections were raised regarding the potential for likely significant effects on marsh fritillary (*Euphydryas aurinia*). Marsh fritillary is listed under Annex II of the EU Habitats Directive and is a Qualifying Interest of designated European sites where the species forms part of the site designation. EIAR Chapter 5 (Biodiversity). The local population of marsh fritillary within the proposed wind farm site is not considered to be associated with any European sites. As stated in Section 5.1.4.1, the Zone of Influence for marsh fritillary is defined as 14 km based on maximum dispersal distances for the species.

Targeted marsh fritillary surveys were undertaken to establish the presence and distribution of the species and suitable habitat within the proposed wind farm site (EIAR Chapter 5 (Biodiversity) Section 5.4.2.7). The potential for effects on marsh fritillary has been specifically assessed within EIAR Chapter 5 (Biodiversity) Section 5.6.2.9. The impact assessment considered the potential for likely significant effects on the species, including; mortality, loss of habitat, and habitat degradation (EIAR Chapter 5 (Biodiversity) Section 5.6.2.9).



Significant effort has been made to design mitigation measures to retain existing marsh fritillary habitat and local populations in situ, insofar as practicable, as detailed in Chapter 5 – Biodiversity Sections 5.6.2.9.1.4–5.6.2.9.16. These measures include pre-construction confirmatory surveys, exclusion zones designed to retain the maximum possible extent of mapped marsh fritillary habitat, solid screening to reduce the potential for dust deposition, and supervision of associated works by an Ecological Clerk of Works.

The proposed project has been designed to avoid all known marsh fritillary larval webs under the existing baseline conditions. However, given the mobile nature of the species, there is potential for the distribution to change between the baseline surveys and the construction phase of the proposed project. As such, the possibility that larval webs may subsequently be identified within areas required for development cannot be entirely excluded. Where larval webs are identified within the development footprint during pre-construction or construction-stage surveys, translocation to suitable receptor habitat identified within the proposed wind farm site has been proposed as a contingency measure (Chapter 5 (Biodiversity) Section 5.6.2.9.1.4).

It has been noted that the Outline Biodiversity Management Plan lists a typographical error in Section 2.3, which erroneously states 22.58 ha instead of 2.58ha of Wet grassland (GS4) will be managed for marsh fritillary as part of the compensation measures (Chapter 6 (Ornithology) Appendix 6-13). The Applicant acknowledges the specific combination of environmental conditions required by marsh fritillary including topography, local climatic conditions, vegetation composition, sward structure, hydrology, the presence and abundance of the larval foodplant. Conservation grazing techniques have been proposed within the Outline Biodiversity Management Plan, which follow best practice guidance on habitat management for marsh fritillary²⁵. The specific targets for success are taken from the habitat assessment for the species²⁶. The proposed management targets are therefore based on established species-specific habitat condition criteria rather than being arbitrary targets developed for the proposed project. Furthermore, the Outline Biodiversity Management Plan provides the opportunity to deliver biodiversity management across a larger area, with a total area of 218.4 ha.

2.2.30 Aquatic Ecology

The potential for likely significant effects on aquatic ecology is presented in EIAR Chapter 5 (Biodiversity) Section 5.6.2.10 and includes an impact assessment on the following species; Atlantic salmon, brown trout, lamprey species, European eel, and white-clawed crayfish.

²⁵ Phelan, N., Nelson, B., Harding, J. and Lysaght, L. (2021) *Ireland's Butterflies Series No. 1: Habitat Management for the Marsh Fritillary*. Waterford: National Biodiversity Data Centre. Available at: <https://biodiversityireland.ie/app/uploads/2021/08/Irelands-Butterfly-Series-Marsh-Fritillary-WEB.pdf> (Accessed: 28 January 2026).

²⁶ National Biodiversity Data Centre (2025a) *Marsh Fritillary Habitat Condition Form (v3)*. Available at: https://biodiversityireland.ie/app/uploads/2025/11/Marsh-Fritillary-Habitat-Condition-Form_v32025.pdf (Accessed: 28 January 2026).



Considering the embedded mitigation measures, no likely significant effects at any geographic scale are anticipated on aquatic species arising from water quality degradation as a result of the proposed project.

2.2.31 Compliance with Legislation

The assertion that EIAR Chapter 5 (Biodiversity) does not comply with national and European legislation, or the required scientific standards is not accepted. The impact assessment has been undertaken in accordance with the applicable national and European legislative requirements, as listed in Section 5.1.6 and Appendix 5-1. In addition, the Chapter 5 (Biodiversity) was prepared following CIEEM guidance (CIEEM, 2024). Accordingly, the assertion that the Applicant has failed to demonstrate compliance with the applicable legal and scientific requirements is not supported.

2.2.32 Article 6(3)

Concerns have been raised that the Biodiversity Chapter cannot demonstrate *beyond reasonable scientific doubt* that the proposed project will not result in likely significant effects on biodiversity. However, this applies the legal test under Article 6(3) of the Habitats Directive outside of its proper context. In *Waddenzee* (Case C-127/02), the Court of Justice held that, following an Appropriate Assessment, the competent authority may authorise a plan or project only where it is certain that the project will not adversely affect the integrity of the European site concerned, which is the case “where *no reasonable scientific doubt* remains as to the absence of such effects”.

The term “reasonable scientific doubt” therefore relates to the Appropriate Assessment process and Natura Impact Statement, having regard to the conservation objectives of the relevant European sites (Special Areas of Conservation and Special Protection Areas), and the potential for adverse effects on the integrity of the site, having regard to the conservation objectives of that site, either alone or in combination with other plans or projects.

This is distinct from a requirement to demonstrate the absence of significant effects on biodiversity in general. The Environmental Impact Assessment is governed by a separate legal framework. Article 3(1)(b) of Directive 2011/92/EU, as amended by Directive 2014/52/EU, provides that the environmental impact assessment shall: “*identify, describe and assess ... the direct and indirect significant effects of a project*” on biodiversity, “*with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC.*”

Therefore, the assertion that the Biodiversity Chapter is deficient because it does not demonstrate beyond reasonable scientific doubt that there will be no likely significant effects on biodiversity does not reflect the applicable Environmental Impact Assessment framework. The EIAR Biodiversity Chapter identifies, describes and assesses the likely significant effects of the proposed project on relevant Important Ecological Features, having regard to the baseline environment and the characteristics of the proposed project, and identifies appropriate mitigation measures and assesses the resulting residual effects.

Following best practice guidelines²⁷, where significant residual negative ecological effects were identified despite the mitigation measures proposed, these have been offset by appropriate compensation measures. The proposed compensation measures are consistent with the geographical scale at which the effects are significant and therefore represent an important component of the ecological design of the Proposed Project.

The compensation measures proposed do not relate to any Qualifying Interests (QIs) of European sites and are not proposed as compensatory measures under Article 6(4) of the Habitats Directive. No compensatory measures, as defined under Article 6(4) of the Habitats Directive, are not required for the Proposed Project (Chapter 5 (Biodiversity) Section 5.3.7).

2.2.33 Over-Reliance on Mitigation and Compensation

The proposed project has been designed having regard to the mitigation hierarchy, with avoidance, mitigation, and compensation measures incorporated into the project design wherever practicable (CIEEM, 2024). EIAR Chapter 5 (Biodiversity) Section 5.5 identifies the various elements of the project design that have been incorporated to avoid direct and indirect impacts on Important Ecological Features. Targeted mitigation measures have been proposed where potential for likely significant effects were identified (EIAR Chapter 5 (Biodiversity) Section 5.6). Where appropriate, compensation measures are subsequently proposed to offset effects that cannot be avoided or fully mitigated (EIAR Chapter 5 (Biodiversity) Section 5.10). Accordingly, mitigation and compensation measures complement the overall ecologically sensitive approach to project design.

2.2.34 Precautionary Principle

Concerns were raised over the application of the precautionary principle to address uncertainty regarding potential long-term effects of the Proposed Project on Dough/Thur Mountain NHA.

EIAR Chapter 5 (Biodiversity) has consistently adopted a precautionary approach where uncertainty exists in relation to habitat classification, Annex I habitat correspondence, the presence of protected species as well as precautionary mitigation measures. This approach has generally overestimated the ecological value of the receiving environment and the potential for likely significant effects.

The precautionary approach has been referenced several times in the EIA Chapter 5 (Biodiversity) including:

- Section 5.4.2.1.29 - Examples of Wet heath (HH3) habitat are considered to correspond to Annex I habitat type 4010 Northern Atlantic wet heaths with *Erica tetralix* in favourable condition on a precautionary basis, where targeted Annex I surveys were not carried out.
- Section 5.6.2.3.16.1 - Following the precautionary principle, parcels of Upland blanket bog (PB2) along existing access tracks are being assessed as corresponding to the priority Annex I habitat type 7130* Blanket bog (active) in favourable condition.

²⁷ CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3*. Chartered Institute of Ecology and Environmental Management, Winchester. Updated September 2024.

- Section 5.6.2.4 - A precautionary approach is taken assuming there is potential for the presence of two Flora Protection Order species bristle-leaf and small-white orchid within the footprint of the proposed wind farm site.
- Section 5.6.2.8.3 - A precautionary mitigation measure is proposed to remove Building 3 pre-construction to eliminate the potential for roost establishment and to avoid any associated collision risk.

Therefore, it is not considered appropriate to suggest that the impact assessment has failed to apply the precautionary principle.

2.2.35 Survey Data

Concerns were raised over the survey data being outdated. As stated in Table 5-2 in Chapter 5 (Biodiversity) Section 5.2.1.2, the field surveys have been updated within 24 months of the planning submission. In accordance with best practice guidance²⁸, ecological reports and survey data that are between 18 months and 3 years old should be reviewed by a suitably qualified ecologist to determine whether an update is required, having regard to the nature of the survey, the species or habitats concerned, and any changes in the site or proposed development.

Concerns were raised over survey data not being relevant to the final site layout. The survey data have been considered in conjunction with the final proposed project layout. Where relevant, the assessment has focused on Important Ecological Features that occur within the Zone of Influence of the proposed project. Accordingly, the use of a survey area which extends beyond the red line boundary provides additional ecological context and does not undermine the relevance or validity of the baseline data used to inform EIAR Chapter 5 (Biodiversity).

Concerns have been raised regarding the absence of ecological surveys on certain lands adjacent to the proposed project, including lands at Shasmore and Lisdarush. These lands are considered beyond the Zone of Influence for ecological impacts associated with various Important Ecological Features as listed in EIAR Chapter 5 (Biodiversity) Section 5.1.4.1. On this basis, the absence of surveys on the specific adjacent landholdings identified in the submission does not indicate that the ecological baseline or assessment is inadequate.

Concerns have been raised regarding the omission of dedicated surveys for Flora Protection Order (FPO) species. The assessment has, however, considered the potential presence of FPO species within the proposed project footprint. As set out in Section 5.6.2.4 of EIAR Chapter 5 (Biodiversity), a precautionary approach was adopted in relation to the potential presence of the species Bristle-leaf and Small-white Orchid, with potential presence within the footprint of the proposed project assumed for the purposes of the impact assessment.

Accordingly, the absence of a dedicated targeted FPO species survey does not represent an omission of these species from the ecological assessment. Rather, potential presence was explicitly recognised and assessed on a precautionary basis, ensuring that the assessment did not rely on an assumption that these protected species were absent. The potential for likely significant effects on FPO species was subsequently considered in the impact assessment.

²⁸ Chartered Institute of Ecology and Environmental Management (CIEEM) (2019) *Advice Note on the Lifespan of Ecological Reports & Surveys*. April 2019. Available at: <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf> (Accessed: 18 August 2026).



Proposed mitigation measures should FPO species be identified during pre-construction confirmatory surveys, include consultation with NPWS to inform the most appropriate measures to be undertaken, such as avoidance through changes in project design. There will be no direct loss of FPO species or their supporting habitat as a result of the proposed wind farm site. The approach adopted is therefore considered appropriate and precautionary in the context of the impact assessment.

2.2.36 Habitat Fragmentation

Concerns have been raised regarding the potential for habitat fragmentation as a result of the proposed project. Habitat fragmentation has been considered within EIAR Chapter 5 (Biodiversity) and was identified as a potential likely significant effect in relation to 0.06 ha of Riparian woodland (WN5), where the loss of this habitat is required to facilitate the bat buffer at T11 (Chapter 5 (Biodiversity) Section 5.6.2.3.13). Accordingly, habitat fragmentation has not been disregarded as a potential likely significant effect.

For other habitat types within the proposed wind farm site, habitat fragmentation was not identified as a likely significant effect of the proposed project. This conclusion reflects the baseline fragmented distribution of existing semi-natural habitats within the proposed wind farm, which are already divided by an established network of access tracks and extensive areas of Conifer plantation (WD4) and Wet grassland (GS4) managed for sheep grazing.

The assessment has consequently distinguished between existing habitat fragmentation and fragmentation attributable to the proposed project. Where the proposed project was considered likely to result in a material increase in fragmentation, this was identified and assessed as a potential likely significant effect. For the remaining habitats, the additional fragmentation arising from the proposed project was not considered likely to result in a significant ecological effect given the existing baseline conditions and the nature and extent of the proposed works.

2.2.37 Transboundary Effects-Biodiversity

Concerns have been raised over a lack of environmental consideration in Northern Ireland. EIAR Chapter 5 (Biodiversity) Section 5.11. The potential for likely significant effects on Lough Melvin SAC (NI) are considered in Section 5.6.2.1.1.5, while the potential for likely significant effects on Lough Melvin ASSI are considered in Section 5.6.2.2.2 of Chapter 5 (Biodiversity).

Database searches for NBN Atlas and CEDAR returned results of several species of conservation importance, including red squirrel and pine marten, within 10 km of the proposed wind farm site (EIAR Table 5-6). However, based on distance from construction activities these records were ultimately not considered to be within the Zone of Influence of the proposed project, and no transboundary population-level effects are predicted.

On this basis, while potential transboundary pathways have been identified and assessed, there are no transboundary residual effects anticipated on Important Ecological Features as a result of the proposed project.

2.2.38 Bats

2.2.38.1 General Concern About Bats

Extensive bat surveys were undertaken according to NaturScot²⁹ to ensure that local bat populations are taken into consideration in the assessment process. The 2024 static surveillance completed exceeded the guidelines to ensure that a robust and representative dataset was collated.

NaturScot (2021) is the principal document used to inform the bat surveys in relation to the potential impacts of wind farms on local bat populations. Wind farms, as stated in NatureScot (2021) can affect bats in the following ways:

- Collision mortality, barotrauma and other injuries;
- Loss or damage to commuting and foraging habitat;
- Loss of or damage to roosts; and
- Displacement of individuals or populations from the proposed development area.

Therefore the guidelines provides survey protocols to ensure that bats are protected by minimising the risk of collision. This is achieved by completing an assessment of the impact of the proposed development by collating information on the following:

- The level of bat activity across the seasons and within the proposed development area; and
- The potential risk of turbine-related mortality of bat species recorded within the proposed development site during bat activity surveys.

The principal survey method deployed was ground level static surveillance which involves to deployment of specialised full spectrum bat detectors and these were located at the proposed turbine locations and set to record nightly for a minimum of 10 nights, as per guidelines. Three static surveillance periods were undertaken in 2024 (Spring, Summer and Autumn). The guidelines recommend that the number of static units deployed is calculated according to the proposed number of turbines. Where a proposed development has more than ten turbines, a detector is required at ten potential turbine locations plus a third of the additional turbine sites. Therefore, for a 14 turbine development, 12 static detectors are required. In 2024, a total of 16 static detectors were deployed in total, one for each of the turbine locations plus two additional locations. In addition, the deployment period for the majority of individual static units exceed the recommended 10 nights to account for weather conditions.

- 2024 Spring Static Surveillance: 4 units recorded for 10 nights, 4 units recorded for 12 nights, 1 unit recorded for 13 nights, 2 units recorded for 15 nights and 5 units recorded for 16 nights.
- 2024 Summer Static Surveillance: 2 units recorded for 10 nights, 2 units recorded for 11 nights, 5 units recorded for 12 nights, 5 units recorded for 13 nights and 2 units recorded for 14 nights.

²⁹ NatureScot (2021) *Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation*. Version August 2021 (updated with minor revisions). NatureScot, Scotland. Available: [Bats and onshore wind turbines - survey, assessment and mitigation | NatureScot](#)



- 2024 Autumn Static Surveillance: One unit recorded for 8 nights and 15 units recorded for 17 nights.

In addition, dusk and dawn surveys and walking transects were undertaken to provide data on the distribution of bat species across the landscape of the proposed development area. Buildings within proposed development area were assessed and surveyed. Any trees with potential bat roost features were also identified. These surveys were completed according to Collins (2016 & 2023 depending on the year of survey).

As a consequence, the distribution of seven bat species and their bat activity level in the vicinity of proposed turbine locations was documented and this facilitated the identification of areas of concern. Bat mitigation measures, in the form of feathering (for all proposed turbine locations) and minimum cut-in speeds (High and Medium risk turbines) are committed to. These mitigation measures are proven to be successful in the reduction of negative impacts of wind farms on local bat populations. This will be coupled with monitoring to ensure that the mitigation measures are appropriate and meet NaturScot (2021) guidelines.

2.2.38.2 Concern About Bat Collisions

Extensive bat surveys were undertaken according to NaturScot³⁰ to ensure that local bat populations are taken into consideration in the assessment process. The 2024 static surveillance completed exceeded the guidelines to ensure that a robust and representative dataset was collated. As a consequence, the distribution of seven bat species and their bat activity level in vicinity of proposed turbine locations were documented and this facilitated that identification of areas of concern. Analysis was completed separately for each static surveillance period to ensure that the analysis was representative of the surveillance period being assessed. The highest activity level recorded for each proposed turbine location over the course of the three static surveillance period was used to inform the Risk Assessment. In addition, the proximity to other proposed turbine locations was also taken into consideration. Therefore turbine locations where Low to Moderate bat activity was recorded were also highlighted as a potential concern for local bat populations, due to proximity to locations highlighted to have a Moderate to High bat activity level. Therefore, the analysis undertaken is robust and identified proposed turbine locations of concern for local bat populations.

Bat mitigation measures, in the form of feathering (for all proposed turbine locations) and minimum cut-in speeds (High and Medium risk turbines) are committed to. The mitigation measures are proven to be successful in the reduction of negative impacts of wind farms on local bat populations. This will be coupled with monitoring to ensure that the mitigation measures are appropriate and meet NaturScot³¹.

2.2.38.3 Other Concerns Expressed

- a) Bat Conservation Ireland Guidelines (April 2026)

³⁰ NatureScot (2021) *Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation*. Version August 2021 (updated with minor revisions). NatureScot, Scotland. Available: [Bats and onshore wind turbines - survey, assessment and mitigation | NatureScot](#)



All surveys were completed by 2024 and therefore NaturScot³¹ guidance was the principal guidelines, in relation to wind farms, that informed the bat survey protocol and assessment.

The Bat Conservation Ireland guidelines³² were issued a few weeks prior to the submission of the application. The document itself states '*This document has not been formally sanctioned, adopted, or published by the National Parks and Wildlife Service (NPWS), the Department of Housing, Local Government and Heritage, or any statutory planning authority.*'

b) Dawn Surveys & NVAs

Three buildings were surveyed in 2024 by dawn survey. While Collins (2023) does not routinely recommend dawn surveys, it should be noted that dawn surveys are suitable to document and identify roost locations for certain bat species. Collins (2023) is a guidance document principally written to cover the greater array of bat species recorded in England (17 native bat species). Ireland has nine resident bats species, eight of which have been recorded in Co. Leitrim. The majority of the additional bat species recorded in England are woodland bat species (e.g. Barbastelle *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, Alcathoes' bat *M. alcathoe*, Brandt's bat *M. brandtii* and Grey long-eared bats *Plecotus austriacus*) and due to their ecology, tend to return earlier to the roost compared to bat species such as Leisler's bats *Nyctalus leisleri* and *Pipistrellus* species.

The concern that Collins (2023) describes is the potential risk of bats returning earlier than the dawn survey period. But Collins (2023) acknowledges that ecologists may choose to undertake dawn surveys for roost characterisations with specific survey goals in mind. As a result of the extensive survey experience of the principal bat ecologist of Bat Eco Services Ltd., dawn surveys are considered valuable in relation to the identification of roosts for Leisler's bats and *Pipistrellus* species. In her experience, the former will typically swarm around the roost entrance points from 30 minutes before sunrise to approximately 10 minutes after sunrise. Common pipistrelles *Pipistrellus pipistrellus* and Soprano pipistrelles *P. pygmaeus* will typically start swarming 60 minutes before sunrise to 5-10 minutes before sunrise with a smaller number of individuals present around sunrise. According to Andrews & Pearson³³ (2022) (publication used in Collins (2023), reported return times for Leisler's bats during the lactation period is on average 12 minutes for sunrise. For Common pipistrelle the time range is large (on average 177.8 minutes before sunrise) up to 6.1 minutes before sunrise. In relation to soprano pipistrelles, the time range reported is also large averaging 268.8 minutes before sunrise. Given that these are the three most common bats species in Ireland and High Risk bat species in relation to wind farms, the implementation of dawn surveys is justified in order to positively identify roosts. As a result

³¹ NatureScot (2021) *Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation*. Version August 2021 (updated with minor revisions). NatureScot, Scotland. Available: [Bats and onshore wind turbines - survey, assessment and mitigation | NatureScot](#)

³² Bat Conservation Ireland (2026) *Bat Survey, Assessment and Mitigation Guidelines for Onshore Wind Farms in Ireland*. Bat Conservation Ireland, Ireland. Available at: [BatSurveyMitigation_OnshoreWind_BatConservationIreland2026.pdf](#)

³³ Andrews, H. & Pearson, L. (2022) Review of empirical data in respect of emergence and return times reported for the UK's native bat species. Bat Tree Habitat Key & Bat Rock Habitat Key.



of one of the dawn surveys completed, a Soprano pipistrelle daytime roost was identified, thereby adding to the data set.

The stepping away from dawn surveys was also informed by Collins (2023) by the fact that routine use of Night Vision Aids (NVAs) during dusk surveys improve accuracy and therefore negating the need for a dawn survey (BCT, 2022³⁴). The application of dawn surveys as part of the survey protocol for this project is justified and appropriate.

Night Vision Aids were routinely deployed during dusk surveys completed, including thermal imagery scopes and IR technology coupled with camcorder with night-shot capability. It is incorrect to say that NVAs were not used in four surveys, as only one dusk survey, undertaken in 2024, was not completed using an NVA. This building was recorded as a Common pipistrelle roost in 2021 and is located in a cluster of buildings recorded as roosts for Natterer's bats and Brown long-eared bats. Common pipistrelle typically emerge 20 minutes after sunset while the latter two species emerge later. Therefore, the NVAs were deployed at buildings deemed important to be assisted with NVAs while the Common pipistrelle roost was visually surveyed with a full spectrum bat detector. While Collins (2023) encourage the use of NVAs, they are not compulsory.

c) No Autumn Swarming & Winter Surveys

Two underground sites listed in habitats mapped by TOBIN (located adjacent to proposed T7 and T8) were identified. This list was cross-referenced with known roosts on the Bat Conservation Ireland database and there is no bat data for these two underground structures. The two underground structures located within the survey area appear to be dolines (stream flows to the underground karst landscape which typically are vertical shafts through the karst into the ground water network). The overground portion was deemed to be unsuitable for swarming surveys due to a lack of a large aperture to facilitate swarming and therefore surveys were not completed.

The trees identified as Potential Bat Roosts (PBRs) had features suitable for single bats. These sorts of features are unsuitable for hibernation as they were shallow and would not protect bats during colder weather conditions.

Winter surveys of buildings were not undertaken as daytime inspections undertaken during summer months did not identify potential hibernation. However, this information was not included in the bat survey report, and it should have been stated.

d) Monitoring of weather conditions

As described in 2.3.39.1 above, in 2024, a total of 16 static detectors were deployed in total, one for each of the turbine locations plus two additional locations. In addition, the deployment period for the majority of individual static units exceed the recommended 10 days to account for weather conditions.

³⁴ BCT (2022) Interim Guidance Note: use of night vision aids for bat emergence surveys and further comment on dawn surveys. Bat Conservation Trust, UK.

- 2024 Spring Static Surveillance: 4 units recorded for 10 nights, 4 units recorded for 12 nights, 1 unit recorded for 13 nights, 2 units recorded for 15 nights and 5 units recorded for 16 nights.

Therefore, data was collated for 16 static locations for a total of 211 nights (average 13 nights).

The bat activity level recorded during Spring Static Surveillance, was lower on average compared to Summer and Autumn Static Surveillance periods, but did record high levels of activity at specific locations, thereby informing the assessment. Consequently Spring Static Surveillance is compliant.

The new Bat Conservation Ireland³⁵ guidance which has been cited in the submission response states:

“The adoption of a “10 consecutive night” minimum for static monitoring is not an arbitrary import; it is a response to the “Standard of Evidence” now required by the Irish Planning Authorities to satisfy the Strict Protection requirements of the Habitats Directive....A 10-night window ensures that even in a typical “wet” Irish week, a sufficient sample of “optimal” foraging weather is captured to allow for a defensible impact assessment.”

e) Lack of Height Surveys

Monitoring at height is stated in NatureScot (2021) to “unlikely to detect the presence of any species not already recorded using detectors at ground level”.

In relation to the 2024 static surveillance, across the three surveillance periods, the seven bat species detected were recorded as follows:

- Common pipistrelle at all fourteen proposed turbine locations;
- Soprano pipistrelle at thirteen of the fourteen proposed turbine locations;
- Leisler’s bat at all fourteen proposed turbine locations;
- Nathusius’ pipistrelle at four of the fourteen proposed turbine locations;
- Daubenton’s bat at all fourteen proposed turbine locations;
- Natterer’s bat at thirteen of the fourteen proposed turbine locations; and
- Brown long-eared bat at twelve of the fourteen proposed turbine locations.

Therefore, the static surveillance at ground level achieved the goal of the surveys (i.e. detecting the suite of bat species present within the survey area).

f) Zero Bat Activity on Three Statics

The recording log was checked for each static unit deployed to ensure that the units actively turned on each night as programmed. Where a static unit failed to record, the static unit was re-deployed to ensure that data was appropriately collected. This occurred for two units during the Summer Static Surveillance period and redeployment was undertaken (Summer 15 and Summer 16). As such, detector failures should not be identified as a survey limitation. The survey design incorporated an appropriate level of redundancy through the deployment of an oversupply of detectors, ensuring that individual detector failures did not compromise the overall survey

³⁵ Bat Conservation Ireland (2026) *Bat Survey, Assessment and Mitigation Guidelines for Onshore Wind Farms in Ireland*. Bat Conservation Ireland, Ireland. Available at: [BatSurveyMitigation OnshoreWind BatConservationIreland2026.pdf](#)



coverage or the robustness of the survey results. Therefore, no limitation to the survey is considered to have arisen from detector failures.

The three zero values, representing static detector units that failed to record during the relevant surveillance periods, were retained in the dataset for transparency and completeness. Exclusion of these values would result in only marginal changes to the calculated activity levels and would not materially alter the interpretation of the survey data, the assessment of effects, or the mitigation measures proposed thereafter.

Three static surveillance periods were undertaken in 2024 (Spring, Summer and Autumn). The guidelines recommends that the number of static units deployed is calculated according to the proposed number of turbines. Where a proposed development have more than ten turbines, a detector is required at ten potential turbine locations plus a third of the additional turbine sites. Therefore, for a 14 turbine development, 12 static detectors are required. In 2024, a total of 16 static detectors were deployed in total, one for each of the turbine locations plus two additional locations, during each static surveillance period. In addition, the deployment period for the majority of individual static units exceed the recommended 10 days to account for weather conditions. As previously stated under the new BCI guidance³⁶, which was referenced in the submission response, the 10 day deployment is already considered sufficient to account for variability in Irish weather conditions. While zero bat activity was recorded on three units over the course of the static surveillance periods, the greater survey protocol in operation ensured that sufficient data was collated. Therefore, the static surveillance surveys were completed according to NatureScot³⁸ guidance and provided a robust data set to enable assessment.

g) Walking Transects

- h) The principal walking transects were completed in 2021 and undertaken according to Collins (2016). A separate surveyor from the dusk survey team, coupled with a full spectrum bat detector, undertook walking transects of tracks within the proposed development area starting from 30-40 minutes after sunset. Additional walking transects in vicinity of buildings surveyed (post dusk survey – 2021 & 2024) were also undertaken to supplement distribution data of potential foraging and commuting habitats adjacent to building surveyed. Data Analysis

The EcoBat Tool is the standard tool widely adopted for bat activity at proposed wind farm sites. The revised EcoBat Tool was not available at the time of analysis and therefore the older version of the tool informed the analysis undertaken. This analysis was completed separately for each static surveillance period to ensure that the analysis was representative of the surveillance period being assessed. The highest activity level recorded for each proposed turbine location over the course of the three static surveillance period was used to inform the Risk Assessment. In addition, the proximity of proposed turbine locations was also taken into consideration and turbine locations where Low to Moderate bat activity was recorded are also highlighted as a potential concern for local bat populations, due to proximity to locations highlighted to have a

³⁶ Bat Conservation Ireland (2026) *Bat Survey, Assessment and Mitigation Guidelines for Onshore Wind Farms in Ireland*. Bat Conservation Ireland, Ireland. Available at: [BatSurveyMitigation OnshoreWind BatConservationIreland2026.pdf](#)



Moderate to High bat activity level. Therefore, the analysis undertaken is robust and identified proposed turbine locations of concern for local bat populations.

i) Mitigation Measures

Bat mitigation measures, in the form of feathering (for all proposed turbine locations) and minimum cut-in speeds (High and Medium risk turbines) were recommended. The mitigation measures are proven to be successful in the reduction of negative impacts of wind farms on local bat populations. This will be coupled with monitoring to ensure that the mitigation measures are appropriate and meet NaturScot³⁷ guidance criteria.

The bat mitigation measures include the clearance of tall vegetation in vicinity of the proposed turbines and the buffer zone is calculated according to NaturScot³⁷ which acknowledges the key-hole effect:

“A 50 m buffer distance should be applied as a basic standard mitigation measure for all bat species occurring at proposed wind farms, including all key-holed sites, which may present an increased risk of bat collisions.”

In addition the proposed mitigation measures take into consideration research undertaken by Kirkpatrick³⁸ and state that all clearance must be undertaken at least 6 months prior to the installation of wind turbines.

Building 3 was surveyed, and no evidence of bats roosting within the structure was recorded. Its removal is proposed as a precautionary mitigation measure to prevent the future establishment of bat roosts in close proximity to the proposed wind turbines. As stated in Chapter 5 (Biodiversity), Section 5.6.2.8.3:

“No evidence of bat roosts was recorded within Building 3 during the field surveys” and that “as a precautionary mitigation measure, Building 3 will be removed pre-construction to prevent roosting by bat species to eliminate the potential for roost establishment and to avoid any associated collision risk”.

The surrounding trees identified as Potential Bat Roosts (PBRs) had features suitable for single bats. These sorts of features are unsuitable for hibernation as they were shallow and would not protect bats during colder weather conditions. Following baseline surveys of Building 3 and surround trees, it was concluded that no derogation license is required as no roosting bats were identified. As such, the proposed mitigation measures are in line with best practice guidance. Furthermore, the mitigation measures include pre-construction confirmatory surveys and a stipulation that if bat roosts are identified during these surveys a derogation license will be sought at that time.

As stated in Chapter 5 (Biodiversity) Section 5.6.2.8.3:

³⁷ NatureScot (2021) *Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation*. Version August 2021 (updated with minor revisions). NatureScot, Scotland. Available: [Bats and onshore wind turbines - survey, assessment and mitigation | NatureScot](#)

³⁸ Kirkpatrick, L., Oldfield, I.F. & Park, K. (2017). Responses of bats to clear-fell harvesting in Sitka spruce plantations and implications for wind turbine installation. *Forest Ecology and Management*, 395, 1-8. <https://doi.org/10.1016/j.foreco.2017.03.033>



“The absence of roosting bats in identified PRFs will be confirmed immediately prior to the removal of these trees and Building 3, with an internal inspection of the potential roost features by a licensed bat ecologist following best practice guidelines Bat Surveys for Professional Ecologists (Collins, 2023). Based on the results of the detailed baseline surveys undertaken to date, no destruction or removal of confirmed bat roosts is anticipated and, therefore, Regulation 54 derogation licences are not required. If confirmatory pre-construction surveys or checks identify a change in the baseline environment, such as the establishment of a new bat roost, a derogation licence will be obtained as required in advance of any tree-felling or removal works. A report detailing the methods, actions, and relevant issues will be submitted to NPWS to fulfil the derogation license obligations.”

2.2.38.4 Bat Impact Assessment

There are no inconsistencies between the impact assessments presented in EIAR Chapter 5 – Biodiversity and Appendix 5.5.

With regards the ecological value assigned to Mixed Broadleaved/conifer woodland (WD2), the habitat description is given in EIAR Chapter 5 – Biodiversity Section 5.4.2.1.17. The dominant species is semi-mature Sitka spruce (*Picea sitchensis*), which is why the habitat was assessed as Local Importance (lower value). As is clearly stated in EIAR Chapter 5 - Biodiversity Section 5.6.2.8.2, “Conifer plantation (WD4) and (Mixed) broadleaved/conifer woodland (WD2) are considered a lower value foraging habitat for bat species, as these habitats are dominated by coniferous species.” Similarly, as stated in EIAR Appendix 5-5 Section 5.1.3, it is Mixed broadleaved woodland (WD1) that is considered “bat habitat” within the assessment and not (Mixed) broadleaved/conifer woodland (WD2) nor Conifer plantation (WD4). In this way, there is no inconsistency in relation to habitat value between Chapter 5 – Biodiversity and Appendix 5-5 Bat Technical Appendix.

All bat species have been identified as of Local Importance (higher value) within the EIAR Chapter 5 – Biodiversity, as stated in Section 5.4.2.5 and summarised in Table 5-17. This assessment is based on national best practice guidance³⁹, for valuation of Annex IV species occurring within the local vicinity of the proposed wind farm site. There are no inconsistencies within the EIAR Chapter 5 – Biodiversity on the valuation of bat species.

The ecological value of individual bat species was also considered in EIAR Appendix 5-5, Table 7a. However, this assessment considers the conservation value of bat species at a national scale, rather than the ecological value of bat species occurring within the local vicinity of the proposed wind farm site. Accordingly, the values assigned in Appendix 5-5 range from Local to International Importance and reflect consideration of the status and distribution of individual bat species nationally, informed by relevant species-specific guidance⁴⁰. This is reflected, for example, in the inclusion of Lesser Horseshoe Bat (*Rhinolophus hipposideros*) in the species valuation, despite the species not being recorded within the proposed wind farm site. The

³⁹ National Roads Authority (2009) *Guidelines for Assessment of Ecological Impacts of National Road Schemes*. Revision 2, 1 June 2009. Dublin: National Roads Authority. TII Publication No. PE-ENV-01112.

⁴⁰ CIEEM (2016) – *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*, 2nd edition. This is the correct 2016 CIEEM EcIA reference.
NatureScot (2021) – *Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation*. Version August 2021, with minor revisions.



different values therefore reflect different geographic scales and assessment contexts, rather than an inconsistency in the ecological valuation presented in the EIAR.

With regards the residual effects on bat species, there is no inconsistencies within EIAR Chapter 5 – Biodiversity. Within EIAR Chapter 5 – Biodiversity Section 5.6.3.8.5 states “there is potential for significant residual effects at a local geographic scale on bat species as a result of habitat loss.” Then in EIAR Section 5.7, the planting of 2.3 ha of (Mixed) broadleaved woodland (WD1) is proposed “to compensate for loss of suitable foraging habitat for bat species.” In Section 5.8, the assessment concludes no significant residual effects at any geographic scale. During the operational phase, following the implementation of mitigation measures EIAR Chapter 5 – Biodiversity Section 5.6.3.8.2 states there will be no significant residual effects at any geographic scale.

The EIAR Appendix 5-5 Section 5.1.9.5 states the construction phase will result in a “medium-term likely significant residual effect at a local level, primarily due to habitat loss.” This assessment does not take into account the compensation measures to offset the potential likely significant effects which are proposed within the EIAR Chapter 5 – Biodiversity Section 5.7. The conclusion in EIAR Chapter 5 – Biodiversity that no significant residual effects are anticipated therefore represents the final residual effects assessment following consideration of the proposed mitigation and compensation measures. Accordingly, the statements in EIAR Chapter 5 – Biodiversity and Appendix 5-5 are not inconsistent; rather, they reflect different points within the assessment regarding the consideration of compensation measures.

With regard to the concluding statement in EIAR Appendix 5-5, Section 5.1.9.7, which states that the proposed project will result in a “low impact on local bat populations”, this specifically refers to collision risk following the implementation of the proposed mitigation measures and does not relate to the separate assessment of effects arising from habitat loss. It therefore addresses a different impact pathway from the assessment of habitat loss and associated effects on local bat populations. As such, the conclusion regarding collision risk does not contradict the assessment of the potential effects of habitat loss on local bat populations.

2.2.39 Hen harrier – presence, national status and predicted effects

This section covers general assertions of hen harrier presence, points on hen harrier’s national status and the predicted effects raised in the EIAR. Comments on hen harrier relating to other topics are covered in subsequent sections.

1. General assertions of hen harrier presence on or around Dough Mountain and the site, based on personal observation, and that the applicant’s own surveys and EIAR acknowledge a significant effect on breeding hen harrier addressed through habitat compensation rather than avoidance. Raised by: Andrea Meuret and Carsten Hofrath; Ann Gilligan; Betty Duignan; Caitriona O’Hara; Cian & Siobhan Duignan; Cllr Mary Bohan; Conor Maguire; Cllr James Gilmartin (individual submission); Dorothee Kolle; Drs. Marian Brunt; Eithne McNulty; Elaine O’Hara; Enda Kilkenny; Fabian and Donna McMorro; Hazel Branagan; Jacinta and Desmond McNulty; John Skea; Justin McMorro; Karl Moore; Kiltyclogher Community Council; Leitrim Tourism Network; Leone Boyle and Ciaran Kelly; Liam Murray; Mairéad Byrne; Martina Viglas; Mary Phair and James Molloy; Miles Butterworth and Cecelia Leadon; Niall and Eilish McEnroy; Nóirin Clancy; Paul and Elspeth Stockwell; Philip Wakeling and



Deirdre Blair; Rosemary Kerrigan; Rossinver Gun Club; Senator Nessa Cosgrove; Shane and Gráinne Ward; Sheila O'Keeffe; The Holey Soles Hillwalking Group.

Response

(1) Breeding hen harrier presence within and around the site is confirmed and extensively documented in the EIAR (e.g. Sections 6.3.3.1.1 and 6.4.5.5, EIAR Chapter 6, Table 6-20), which records up to two breeding pairs nesting within area surrounding the proposed project. The point on significant effects on breeding hen harrier being addressed by habitat compensation rather than avoidance has been answered in the response to the Leitrim County Council submission, Item 1.

2. Kevin O'Reilly separately submits that NPWS advised during pre-application consultation that displacement and collision effects should be considered significant at the regional scale for the small Leitrim-Cavan population, with potential implications at the national scale through contraction or loss of range within the regional population.

Response

(2) This is not disputed and is consistent with the EIAR's own conclusions, on both the displacement and collision elements of NPWS's advice. On displacement: EIAR Chapter 6, Table 6-20 explicitly assesses the effect of operational disturbance on breeding and foraging hen harrier as significant, long-term and negative at the national scale specifically in relation to the Leitrim Uplands non-designated important breeding area, the same regional population NPWS's pre-application advice concerns. On collision: EIAR Chapter 6, Section 6.4.5.5 finds that, on the precautionary adult-mortality basis, predicted collision mortality represents a 2.31% increase in background mortality at the same regional scale, above the 1% screening threshold; the EIAR's own position, that the true figure is likely to lie between this and the lower juvenile-mortality basis of 0.56%, does not change the fact that a potentially significant regional-scale collision effect has been identified and is not being understated.

NPWS's advice and the EIAR's own significance findings, on both displacement and collision, are therefore aligned, not in conflict, and it is precisely this context that informs the scale and design of the compensation package addressed at Leitrim County Council response, Item 1.

3. Kevin O'Reilly also submits that the applicant has withheld hen harrier nest location data on grounds of nest safety, and that this prevents third parties from scrutinising specific claims made using that data, including the assertion that a pair is habituated to disturbance from nesting 5 to 10 m from a local road.

Response

(3) Withholding of sensitive nest location data is addressed and justified in EIAR Chapter 6, Section 6.3.3.1.3.1.1. This is a standard, legally required safeguard for a species subject to persecution risk, not a device to avoid scrutiny. The underlying data, including the survey evidence supporting the 5 to 10 m road-proximity finding, has not been requested by An Coimisiún Pleanála, NPWS or any other statutory consultee to date, and has accordingly not been provided; it remains available to be provided should such a request be made.

4. National hen harrier population figures. Hazel Branagan cites 85 to 106 breeding birds; Mary Phair and James Molloy cite approximately ninety breeding pairs, with one said to be at Lissinagroagh; both submissions are made in the context of the poor conservation status of hen harrier and preventing extinction of the species.

Response

(4) Hazel Branagan's submission cites a figure of 85 to 106 breeding birds nationally. This is consistent with the national breeding population estimate relied upon in the EIAR (EIAR Chapter 6, Section 6.2.3.1; Ruddock *et al.*, 2024, cited above in response to Leitrim County Council Item 1). Mary Phair and James Molloy's figure of approximately ninety breeding pairs nationally falls within this range and is not inconsistent with it. Neither figure contradicts the EIAR's own conclusion that the effect of operational disturbance on breeding hen harrier is significant at the national scale in the absence of compensation measures (EIAR Chapter 6, Table 6-20); the EIAR does not understate the seriousness of the national hen harrier decline, and the compensation strategy has been designed with this context specifically in mind (OBMP Appendix 6-13, Section 1.3.1).

2.2.40 Hen harrier – adequacy of proposed habitat compensation

Submissions were received from Claudia Sweeney; Conor Maguire; Ian and Angeline Pudney; John O'Hagan; Kevin O'Reilly; Joseph Sheerin; Marie Sheerin; and Save Dough Mountain Community Group relating to the adequacy of proposed hen harrier habitat compensation. Comments on hen harrier relating to other topics are covered in other sections.

1. Claudia Sweeney submits that the application does not clearly distinguish whether the OBMP measures constitute avoidance, mitigation or compensation, and that this ambiguity must be resolved given hen harrier's unfavourable conservation status, which places a heightened burden on the applicant to demonstrate the AA conclusion does not rely on compensatory measures. Conor Maguire raises the same underlying classification point but goes further, submitting that the measures are compensation rather than avoidance or mitigation, citing *Grace and Sweetman v An Bord Pleanála* in support.

Response

(1) The EIAR's methodology (EIAR Chapter 6, Section 6.2.6.4) applies the CIEEM (2024)⁴¹ mitigation hierarchy explicitly and transparently and classifies the NEA and foraging-enhancement package as compensation for the residual, unavoidable operational displacement effect. The EIAR does not attempt to characterise compensation as avoidance or mitigation. Hen harrier's unfavourable conservation status is not in dispute; it is precisely why the EIAR (EIAR Chapter 6, Section 6.2.6.2) applies NatureScot (2025)⁴¹ significance criteria that ask whether the proposed project would prevent a declining species from halting its decline and recovering to favourable conservation status. On the evidence in EIAR Chapter 6, Section 6.4.9.1 and the OBMP, the compensation package delivers a net positive outcome relative to the declining, unmanaged baseline described in EIAR Chapter 6, Section 6.4.2. The Department of Housing,

⁴¹ NatureScot. (2025). Guidance note - Assessing the significance of impacts on bird populations from wind farms that do not affect protected areas <https://www.nature.scot/doc/guidance-note-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect>



Local Government and Heritage (DAU), the state's own nature conservation planning authority and the body best placed to take issue with this classification, reviewed this same OBMP compensation package in detail and raised no objection as a matter of principle; its concerns, addressed under the DAU theme above, are directed at timing and sequencing, not at the classification itself.

Ms Sweeney submits that the application does not clearly distinguish whether these measures constitute avoidance, mitigation or compensation, and that this ambiguity must be resolved given the heightened burden arising from hen harrier's unfavourable conservation status. That ambiguity does not arise here. As set out above, the EIAR classification is explicit rather than equivocal, and the DAU's review of the same package, addressing timing and sequencing rather than classification, confirms that the state's own nature conservation authority did not read the EIAR as leaving this point open.

Grace and Sweetman v An Bord Pleanála⁴² concerned a wind farm sited within a designated Special Protection Area for hen harrier, engaging Article 6(3) and 6(4) Appropriate Assessment obligations directly. The Lissinagroagh site is not within any European site designated for hen harrier, and the Appropriate Assessment Screening carried out for this application concluded that there is no potential for a likely significant effect on any European site, including those designated for hen harrier, whether alone or in combination with other plans or projects. On that basis, the Article 6(3)/6(4) framework that Grace and Sweetman turns on is not engaged by this application at all, at any stage. The proposed project would instead affect a non-designated important breeding area identified in the Hen Harrier Threat Response Plan (NPWS, 2024)⁴³; such areas fall to be assessed under EIA and CIEEM significance criteria rather than the Appropriate Assessment framework (EIAR Chapter 6, Section 6.2.6.5). The Natura Impact Statement submitted with this application confirms this position, concluding no potential for a likely significant effect, and consequently no adverse effect on the integrity of any European site.

In conclusion, Grace and Sweetman, as relied upon in Mr Maguire's submission, is therefore not relevant here.

2. Ian and Angeline Pudney submit that compensation land is not legally secured, the OBMP being only an outline document.

Response

(2)

The OBMP confirms that legal agreements for the 164.25 ha of foraging enhancement lands will run for the lifetime of the wind farm once operational, plus an additional two years from the commencement of construction (OBMP Appendix 6-13, Section 3.2.2). NEA works, given the longer establishment lead-in required, begin in the 18 months prior to construction (this has

⁴² Case C-164/17 *Edel Grace and Peter Sweetman v An Bord Pleanála*, Judgment of the Court (Second Chamber), 25 July 2018, ECLI:EU:C:2018:593. The case concerned Keeper Hill Wind Farm, Co. Tipperary, sited within the Slieve Felim to Silvermines Mountains Special Protection Area (SPA) designated for hen harrier, and turned on whether dynamic habitat-management measures could be treated as protective measures for Habitats Directive Article 6(3) screening purposes.

⁴³ NPWS. (2024). Hen Harrier Threat Response Plan 2024-2028.



been agreed by the Applicant and updates the year prior to construction referenced in OBMP Appendix 6-13, Section 2.4.1), with NEA management plans agreed on the same timescale and physical habitat establishment continuing through the two-year construction phase (OBMP Appendix 6-13, Section 2.4.1); development of the detailed individual farm plans occurs in the 18 months before construction, with implementation from the start of the project (OBMP Appendix 6-13, Section 2.4.1).

It is standard practice for a document of this kind to be submitted in outline form at planning application stage. The OBMP states this explicitly: no compensation or enhancement works will commence until planning permission is granted, and a detailed BMP, containing specific management and farm plans for each landholding, will be produced upon receiving permission (OBMP Appendix 6-13, Section 2.4). The OBMP further confirms that this detailed BMP will be developed and agreed with the planning authority and NPWS, not finalised unilaterally by the developer (OBMP Appendix 6-13, Section 3.0). This reflects the practical reality that final, binding site-specific agreements cannot be concluded with certainty before the development they relate to has been granted permission, while ensuring the detailed plan itself is subject to statutory oversight once produced. Notwithstanding the above, sufficient detail is provided within the OBMP to demonstrate that the lands are suitable for the proposed measures and that the objectives of the management plan are deliverable on these lands.

Planning conditions are used throughout this application as a delivery mechanism for construction-phase mitigation, including confirmatory pre-construction surveys, breeding-season exclusion zones, and ongoing monitoring (EIAR Chapter 6, Table 6-28). The foraging habitat enhancement lands are secured by legal agreement with the relevant landowners for the duration set out above (OBMP Appendix 6-13, Section 3.2.2), and implementation of the OBMP as a whole will be additionally secured through a planning condition (EIAR Chapter 6, Table 6-28), given that all biodiversity management lands lie fully within the site's red-line planning application boundary. Implementation of the NEAs is secured through a planning condition as referred to above.

This is reinforced by the Commission's power to condition any grant of permission to secure compliance with matters such as the implementation of these enhancement measures, particularly given that all biodiversity management lands lie fully within the site's red-line planning application boundary (see also response to Leitrim County Council submission in this document, Item 1).

3. Ian and Angeline Pudney and John O'Hagan submit that the forestry-to-heath conversion method proposed for the Nesting Enhancement Areas is unproven, citing NPWS's own advice that comparable sites have failed.

Response

(3) The forestry-to-heath conversion method is not unproven. The OBMP sets out site-specific ecological, hydrological and topographical suitability evidence for conversion (Appendix 6-13, Section 2.2.2) and responds directly to NPWS's advice, given at the 18 March 2026 consultation meeting (EIAR Chapter 6, Table 6-1), that comparable UK and Irish sites have failed where habitats became unmanageable as trees recolonised. The OBMP commits to simple, robust, replicable monitoring metrics in direct response to that advice, with remedial and adaptive

management action if monitoring shows the measures are not working (EIAR Section 6.4.11; OBMP Appendix 6-13). NPWS's advice at that consultation was constructive rather than a fundamental objection to the conversion approach itself, and the Department of Housing, Local Government and Heritage's own subsequent submission on this application raises no objection to the forestry-to-heath conversion methodology as a matter of principle; its concerns, addressed under the DAU theme above (DAU submission Item 1), relate primarily to timing and sequencing, not to whether conversion can succeed.

4. Ian and Angeline Pudney submit that the 140 ha foraging habitat loss figure is understated and separately cite the Hen Harrier Foraging Habitat Loss Report's own worst-case sensitivity analysis in support. Both Ian & Angeline Pudney, and the Save Dough Mountain Community Group further submit that the underlying 250 m displacement distance is measured from the turbine centre rather than the blade tip, and is drawn from Pearce-Higgins et al. (2009), a study of turbines with 30 to 70 m hub heights, smaller than the 101 to 110 m hub heights and 180 to 185 m blade tip heights proposed here.

Response

(4) The 140 ha foraging loss figure is not understated. It already incorporates forward-looking forestry-cycle modelling, rising from an initial 109 ha to 140 ha to account for currently unsuitable habitat becoming suitable over the 35-year project life (EIAR Appendix 6-12, Hen Harrier Foraging Habitat Loss Report), and the compensation package of 218.4 ha exceeds it by a substantial margin.

The Hen Harrier Foraging Habitat Loss Report does not rely on a single habitat loss figure. It first calculates the area of habitat within 250 m of the turbines that is suitable for hen harrier foraging based on habitat type alone, giving the 109 ha (current) and 140 ha (forestry-cycle-adjusted, lifetime) figures referred to above. It then tests those figures against two independent methods that use the site's own recorded hen harrier activity, rather than habitat type alone, to check whether actual foraging behaviour supports, understates, or overstates them.

The first method maps the area actually used for foraging in each survey year, based on recorded flight lines. Ian and Angeline Pudney and the Save Dough Mountain Community Group both point to one year within this dataset, 2022, in which all habitat within 250 m of every turbine fell inside the mapped foraging territory, producing no reduction in the loss figure for that year; the Save Dough Mountain Community Group's submission further argues this shows the 140-ha figure "should be read as a floor, not a ceiling." That 2022 result is correctly described. It is, however, the single most extreme of five survey years, not the representative figure the report actually relies on: when the same method is applied across all five years and averaged, rather than taken from the single highest year, the resulting loss figure falls, not rises, to approximately 79 ha on current suitability and 133 ha on future suitability, both lower than the 109 ha and 140 ha figures used for compensation planning. A second, independent method, based on a 2 km core foraging buffer around the NEAs, gives a similar reduction (approximately 104 ha and 135 ha). The report's own conclusion, considering all five years and both methods together rather than the single worst year in isolation, is that these functional-use refinements suggest the headline 109 ha and 140 ha figures are precautionary and likely to slightly overestimate actual displacement. The 140-ha figure adopted for compensation planning is therefore the more cautious, not the more favourable, of the figures the applicant's own analysis produced, and the



2022 result cited by both submissions is consistent with that, as one data point within a range the report already accounts for rather than a figure the report overlooked. As stated previously, the compensation package relates to 218.4 ha of land.

Ian and Angeline Pudney and the Save Dough Mountain Community Group also both submit that the 250 m displacement distance is measured from the turbine mast centre rather than the blade tips, and that it is drawn from a study of turbines with hub heights of 30 to 70 m, smaller than the 101 to 110 m hub heights and 180 to 185 m tip heights proposed here; the Save Dough Mountain Community Group's submission identifies this study as Pearce-Higgins *et al.* (2009) and describes the tip-versus-mast point as "something the original study did not establish." Both points are accurately drawn from the underlying study, and both are directly addressed in the Hen Harrier Foraging Habitat Loss Report (EIAR Appendix 6-12) rather than left unanswered. They do not, however, show the 140-ha figure to be an underestimate. Pearce-Higgins *et al.* (2009) do not specify whether displacement distances were measured from the turbine tower centre or the blade tip. The Foraging Habitat Loss Report addresses this directly: Pearce-Higgins *et al.*'s own reference to "locations of turbines" strongly suggests distances were measured from the tower centre, and measurement from the blade tip would have required assumptions the original authors did not set out, so the 250 m figure is applied on the same tower-centre basis in this assessment. On turbine size, the Foraging Habitat Loss Report also directly acknowledges that the turbines studied by Pearce-Higgins *et al.* had hub heights of 30 to 70 m against the 101 to 110.5 m hubs proposed here, but notes that the study found no evidence that hub height influenced displacement: avoidance distances were modelled across a range of hub heights, indicating that the presence of the turbine itself, rather than its height, is the primary factor driving displacement. On this basis, the Foraging Habitat Loss Report treats the 250 m distance as the most conservative available estimate of displacement, not a figure calibrated to smaller turbines that has since been outgrown by the proposed project's design.

The Save Dough Mountain Community Group also submits that the applicant's reliance on forest screening to justify the 250 m distance "cuts both ways," since the open bog, wet grassland and heath near the turbines, the best hunting habitat, are not screened, and the felling the proposed project itself carries out will keep opening the canopy and exposing more ground over time. Both observations are correct, but neither identifies a gap in the assessment; they describe exactly what the Foraging Habitat Loss Report already models. Open, unscreened habitat within 250 m was never assumed to be screened: the current 109 ha figure already includes upland blanket bog, wet grassland and wet heath at higher and lower suitability on that basis, and screening is invoked only to explain why displacement is not extended beyond 250 m into currently closed-canopy forestry, following the discussion in Goodship and Furness (2022). The effect of ongoing felling progressively exposing more ground is the specific mechanism the report's forward-looking forestry-cycle modelling is designed to capture, which is precisely why the lifetime figure of 140 ha is higher than the current-baseline figure of 109 ha and is the figure used for compensation planning, rather than the lower, current-conditions-only figure.

In any event, the compensation package is not dependent on the 250 m figure alone: the 218.4 ha of Nesting Enhancement Areas and foraging enhancement land is sized to exceed the higher of the two independent loss estimates addressed above, the 140 ha forestry-cycle-adjusted figure and the mean foraging-territory-based figure, and the post-construction monitoring and

adaptive management framework (EIAR Chapter 6, Section 6.4.11, OBMP Section 3.3) provides a further, evidence-based mechanism to increase the compensation response if actual displacement distances at operational turbines of this size are found to exceed those assumed.

In summary, the 140 ha figure is not understated: it is the more cautious of two independent estimates, both of which, averaged across all survey years, actually produce lower figures than 140 ha. The measurement-basis and turbine-size points are accurate but don't change this. The 218.4 ha compensation package already exceeds the higher estimate, with monitoring as a further safeguard.

5. Marie Sheerin cites six Coillte biodiversity areas, previously without statutory protection, that are now within the proposed wind farm site, as evidence that non-statutory biodiversity designations can be overridden by later development. She uses this as a precedent to argue that the applicant's proposed hen harrier compensation lands, similarly secured only by private landowner agreements rather than statutory protection, cannot be relied upon.

Response

(5) Marie Sheerin's point does not undermine the reliability of the proposed compensation strategy. Her argument rests on an analogy between the six Coillte areas and the compensation lands, but the analogy does not hold, for two reasons.

First: Coillte's BioClass system is an internal forestry-management ranking applied across the wider Coillte estate for operational planning purposes. It is not, and has never been presented as, a statutory conservation designation. The parcels Ms Sheerin refers to are classed BioClass 3 and BioClass 4M, at the lower end of the ranking rather than the outstanding or excellent categories (BioClass 1 and 2).

Second, even if the BioClass point were accepted at face value, it would not support the inference she draws. The proposed hen harrier compensation lands are not simply labelled with an internal ranking; the Outline Biodiversity Management Plan describes them as secured through legal agreements with landowners and subject to a planning condition, with obligations of a stated duration. That is a materially different, and stronger, form of protection than an internal forestry classification. Whether that legal mechanism is itself sufficiently robust and durable is a separate question, addressed elsewhere in response to Ms Sheerin's specific concerns about enforceability, registration on the land folio, survival on transfer, and long-term monitoring, but it cannot fairly be equated with the Coillte BioClass parcels she cites.

On the specific location claim: the closest BioClass 3 parcel lies outside the site red-line boundary. The closest BioClass 4M parcel also lies outside the infrastructure footprint, with only a small partial overlap with the bat mitigation felling buffer around Turbine T10 (see Figure 2-2 and Figure 2-3).

Figure 2-2 below illustrates the BioClass areas with pink mottled areas indicating BioClass 4M, and Figure 2-3 shows the same with the yellow mottled areas indicating BioClass 3.

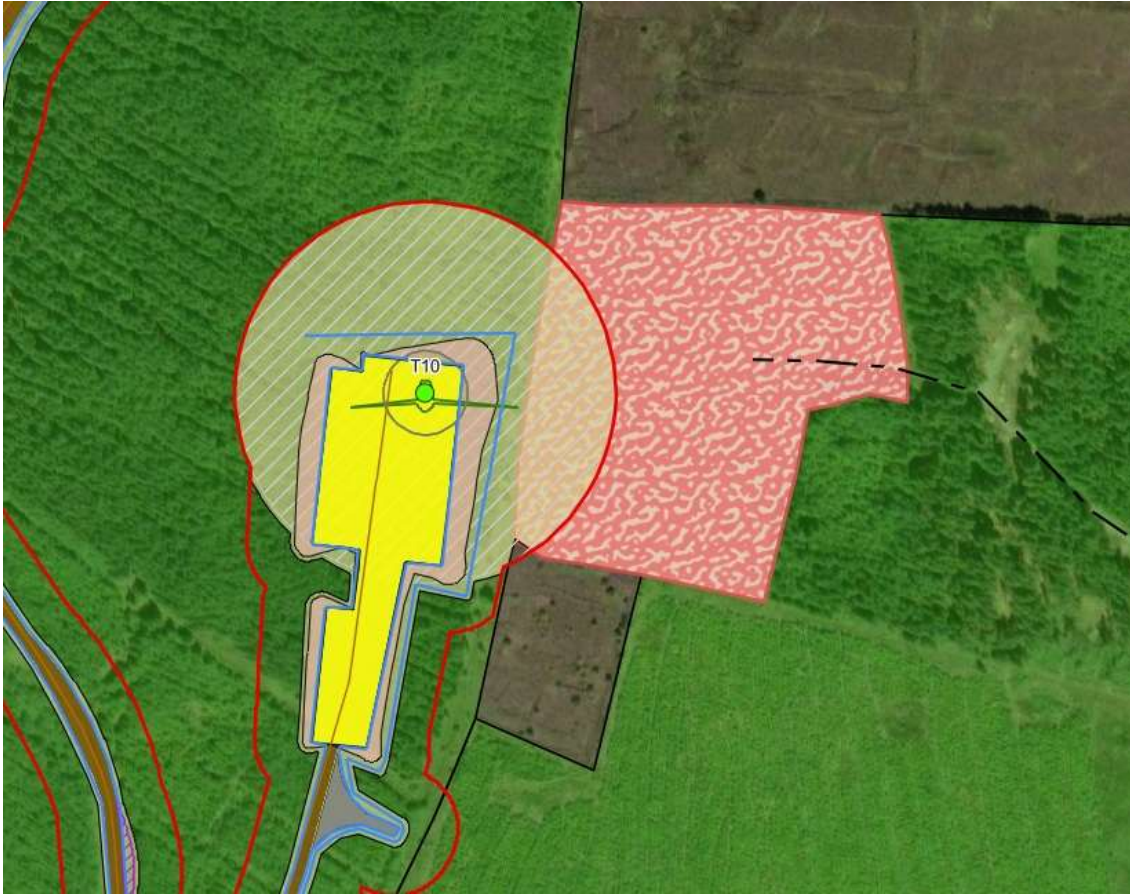


Figure 2-2: Location of Coillte BioClass Area 4M Relative to Turbine T10

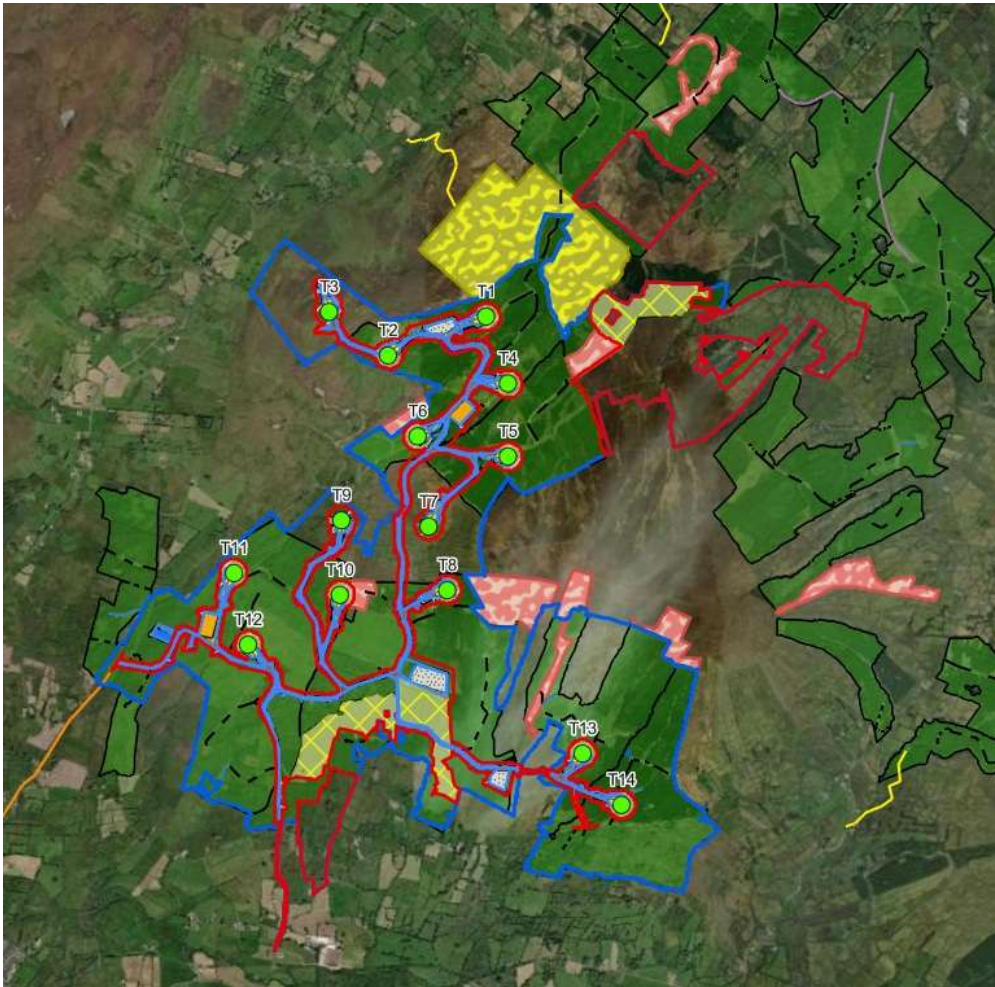


Figure 2-3: Location of Coillte BioClass Areas in Relation to Proposed Project

6. Enda Kilkenny reports that a FuturEnergy Ireland community engagement officer told him that hen harrier displaced by the development could merely fly and live somewhere else. Karl Moore questions whether hen harrier actually follow relocated/enhanced habitat.

Response

(6) The characterisation Mr Kilkenny attributes to a community engagement officer does not reflect the applicant's position and is not accepted as an accurate account of the project's approach to hen harrier. The EIAR treats operational displacement of breeding hen harrier as a significant effect requiring a dedicated, evidenced compensation strategy (EIAR Chapter 6, Table 6-20; OBMP Appendix 6-13), not as a proposition that the birds will simply relocate elsewhere unaided.

On Karl Moore's question as to whether hen harrier follow relocated/enhanced habitat, this is directly addressed in EIAR Chapter 6, Section 6.4.9.1, which shows that hen harrier can quickly establish new nests in newly available suitable habitat where it occurs. This responsiveness indicates that potentially suitable nesting habitat is likely to be quickly discovered and used by

hen harriers, particularly where it lies in proximity to previous nesting locations, which is the case for both of the proposed Nesting Enhancement Areas.

7. Kevin O'Reilly submits that the 750 m Nesting Enhancement Area setback is inconsistent with published hen harrier foraging ranges.

Response

(7) The EIAR's 750 m NEA setback is a disturbance-free buffer to avoid nest desertion and disturbance (Goodship et al., 2022)⁴⁴, not a foraging-range figure. The proposed foraging enhancement lands are all located within 2 km of the NEAs specifically to fall within the core foraging range Arroyo et al. (2014)⁴⁵ describe, around 1 km for females and 2 km for males (OBMP Appendix 6-13, Section 2.2.3.3). O'Reilly's citation of Arroyo et al. is a foraging-range distance, not a disturbance-buffer distance; the two measure different things and are both accounted for in the OBMP's design.

In summary, foraging range describes how far a harrier will travel to hunt, so it constrains where the foraging enhancement lands must sit relative to the nest, not where the NEA itself can be placed, which is instead governed by the disturbance-free setback needed to avoid nest desertion during establishment works.

8. Kevin O'Reilly submits that approximately 86.37 ha of agricultural land will be managed for hen harrier under the OBMP as a compensatory measure, and that the additional ecological benefit of enhancement lands already under an existing agri-environment scheme is unclear.

Response

(8) Kevin O'Reilly's submission states that approximately 86.37 ha of agricultural land will be managed for hen harrier under the OBMP. This figure does not correspond to any figure in the OBMP or EIAR and its source is unclear; the foraging enhancement component of the compensation package is 164.25 ha, within a total compensation package of 218.4 ha (comprising 54.15 ha of Nesting Enhancement Areas and 164.25 ha of foraging enhancement).

This has been considered in the OBMP's additionality assessment, which measures actual habitat condition rather than scheme membership. O'Reilly submits that the enhancement lands fall within an existing ACRES Co-operation Project area, where participating landowners are already implementing habitat management actions that benefit hen harrier, and that the additional ecological benefit of the proposed measures over this baseline is unclear. Additionality is one of six criteria the compensation strategy was explicitly designed against (OBMP Appendix 6-13, Section 2.2.1), and the foraging enhancement lands' current suitability for hen harrier was assessed parcel by parcel against their suitability following enhancement: of the 164.25 ha, none is currently classed as higher suitability. However, the area classed as higher suitability will rise to 153.49 ha once the proposed management measures are implemented

⁴⁵ Arroyo, B., Leckie, F., Amar, A., McCluskie, A., & Redpath, S. (2014). Ranging behaviour of Hen Harriers breeding in Special Protection Areas in Scotland. *Bird Study*, 61(1), 48–55. <https://doi.org/10.1080/00063657.2013.874976>



(OBMP Appendix 6-13, Section 2.2.3.3, Table 2-1), which will provide better quality foraging habitat than most of what will be effectively lost. This is a measured uplift against current, surveyed site condition, whatever funding scheme, if any, currently applies to the land. The prescriptions themselves - revised grazing regimes, rush control, hedgerow restoration, scrub management, fertiliser reduction, peatland rewetting and invasive species control are bespoke, hen-harrier-specific prescriptions that are secured through legal agreement with landowners and by a planning condition for the lifetime of the wind farm plus two years prior to operation commencing. They will be delivered under individual farm plans with annual monitoring and formal compliance inspections (OBMP Appendix 6-13).

2.2.41 Hen harrier – construction disturbance

A submission from Karl Moore asks how a hen harrier is expected to move from its existing nesting area to the newly-created biodiversity enhancement area when much of that area must first be felled, and what effect the noisy construction phase, which he notes can last up to two years, has on hen harrier during that process.

In response, Mr Moore raises two distinct points: whether there is any basis for expecting hen harrier to use newly-created Nesting Enhancement Area habitat at all, and what effect the two-year construction period has on the species.

On the first point, hen harrier are well documented as preferring pre-thicket and recently-felled conifer stands for nesting, rather than mature or established habitat (OBMP Appendix 6-13). The NEAs are created by felling low-yield conifer plantation specifically because this produces the early-successional structure the species is known to select, not because cleared land is assumed to be attractive by default. The DAUs's review of the OBMP (DAU submission, Item 1) confirms the acidic, low-nutrient, wet ground conditions at the NEAs predispose the site to natural recolonisation by heather, bilberry, rush and sedge once the canopy is removed. On this basis, the NEAs are the specific habitat type the applicant's own evidence indicates hen harrier will select, not unproven or marginal land offered as compensation.

On the second point, disturbance during the two-year construction period, including from the NEA felling and establishment works themselves, is managed by confirmatory pre-commencement surveys and disturbance buffers of up to 1,000 m sequenced around confirmed nest locations each construction season, as addressed in detail in response to the DAU submission in this document, in relation to the DAU's own concern about the southern pair's proximity to proposed works. NEA felling will take place 18 months immediately prior to construction commencing, subject to the same buffer and sequencing regime, ensuring the enhanced nesting habitat has the maximum practicable time to establish structurally before the construction-phase disturbance begins. Beyond the construction period, the OBMP's post-construction monitoring and adaptive management framework (EIAR Chapter 6, Section 6.4.11; OBMP Section 3.3) provides a mechanism to respond if birds are found to be more disturbed, or displaced further, than currently predicted.

2.2.42 Hen harrier – turbine curtailment

A submission from Marie Sheerin quotes the OBMP directly on the risk of effective loss of the species from the site and asks whether turbines would be curtailed if hen harrier return to their original nesting or foraging sites.

In response, Marie Sheerin's quotation from the OBMP, that breeding hen harrier are likely to be disturbed and that this may result in the effective loss of the species from the site, is accurately drawn from the OBMP's summary of the EIAR's Chapter 6, Table 6-20 conclusion and is not disputed. On whether turbines would be curtailed if hen harrier return to their original nesting or foraging sites, the EIAR's post-construction monitoring and adaptive management framework already provides for this scenario. EIAR Chapter 6, Table 6-24 confirms curtailment was not adopted as a blanket, upfront mitigation measure, but the adaptive management commitment at EIAR Chapter 6, Section 6.4.11 and OBMP Section 3.3 is broader: if post-construction monitoring shows birds using areas closer to turbines than predicted, or shows collision or displacement effects greater than assessed, adaptive management measures, to be agreed with NPWS and informed by experience from other wind farm sites, will be implemented. Operational curtailment at specific turbines is one of the measures available within that framework, to be applied if monitoring data supports it, rather than pre-committed now in the absence of any evidence that it would be necessary.

2.2.43 White-tailed eagle – presence

A number of submissions raised the issue of the White-tailed eagle presence.

1. Dayna and Bernadette Stirrat report observing a white-tailed eagle with four chicks on “Ballyboy Mountain”.

Response

(1) The place name most closely matching the Stirrats' description is Boleyboy Mountain, immediately adjacent to, and overlapping, large parts of the proposed wind farm site, which is where the EIAR's own surveys have recorded white-tailed eagle activity. Survey records at that location show no confirmed or suspected breeding at any point in the survey period and comprise: an immature bird seen flying at a lough in 2022, a sub-adult soaring over a lough in 2023 with no nesting or repeated use observed, and an immature bird recorded on-site in Boleyboy on two occasions in 2025, once observed roosting in August (EIAR Section 6.3.3, species activity table). At no point does the applicant's detailed, multi-year record for this location show a breeding pair, a nest or chicks of any age.

Two further points are relevant to assessing this claim. First, the Stirrats' submission does not specify a date for the observation, so it cannot be tested directly against the specific years covered by the applicant's survey record; equally, this means the claim cannot be shown with certainty to fall outside that record either. Second, a brood of four chicks would be an exceptional outcome for this species⁴⁶: white-tailed eagle clutch size is typically one to three

⁴⁶ Orta, J., Kirwan, G.M., Christie, D.A., Boesman, P.F.D. & Marks, J.S. (2023). White-tailed Eagle (*Haliaeetus albicilla*), version 1.1. In *Birds of the World* (S. M. Billerman, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.whteag.01.1>



eggs, with four being very rare, and even successful broods usually fledge fewer young than the full clutch due to sibling competition, such that four chicks fledged together from a single nest is not a pattern reflected in the applicant's survey data for this or any other location on or near the site. Taken together, and assuming Ballyboy and Boleyboy represent the same location, the Stirrats' claim of a breeding pair with four chicks is not supported by, and is difficult to reconcile with, the survey data and species ecology available to the applicant.

2. Claudia Sweeney provides video-still evidence of white-tailed eagle at the adjacent Faughary Wind Farm and requests a standalone assessment of potential effects on this species including flight behaviour, utilisation of the wider landscape and cumulative assessment

Response

(2) Claudia Sweeney's video-still evidence of white-tailed eagle at the adjacent Faughary Wind Farm, and eagle presence reported near Faughary more generally, is consistent with the EIAR's own finding of increasing regional white-tailed eagle activity (EIAR Chapter 6, Section 6.4.5.7). A full assessment on white-tailed eagle is provided in EIAR Chapter 6, Section 6.4.5.7. Cumulative assessment for the species is addressed in EIAR Chapter 6, Section 6.4.7, which considers other wind farms and developments within 20 km sharing this receptor, including Faughary. Given that there is uncertainty over future white-tailed eagle activity increasing over the coming years, monitoring and adaptive mitigation is proposed (EIAR Chapter 6, Sections 6.4.6 and 6.4.11).

3. Claire O'Hara, Ian and Angeline Pudney, Liam Murray, Nuala McNulty and Sabine Waniek report further white-tailed eagle presence in the wider area.

Response

(3) Nuala McNulty's and Sabine Waniek's further presence reports are consistent with the EIAR's own recorded increase in white-tailed eagle activity from 2023 onwards and are not disputed. The significance of this presence pattern for collision risk, in particular the age-based mortality assumption it supports, is addressed under the collision risk theme below.

2.2.44 Collision risk modelling

A number of submissions query the project collision risk modelling.

1. Conor Maguire cites turbine parameters and a blade-tip-speed calculation to argue that a low collision-risk outcome does not resolve the separate displacement concern. Kevin O'Reilly separately submits that displacement and collision mortality should not be treated as independent effects, since displacement-driven reductions in habitat availability and foraging efficiency and collision-driven direct mortality may compound one another rather than acting in isolation.

Response

(1) Conor Maguire's turbine parameters, 163 m rotor diameter and 185 m blade tip height, are consistent with the proposed project's specification range (149 to 163 m rotor diameter, 180 to 185 m blade tip height across the 14 turbines; EIAR Chapter 6, Section 6.1.2), and his blade-tip-speed calculation is of the right order of magnitude for a turbine of this size. His broader point, that a low collision-risk outcome does not on its own resolve the separate displacement concern, is correct and is already built into the EIAR's approach: collision and operational disturbance /



displacement are assessed as distinct, mutually exclusive impact pathways (EIAR Chapter 6, Section 6.4.3.2.1.1, EIAR Chapter 6, Section 6.4.5.5).

Kevin O'Reilly's related submission goes further, arguing displacement and collision should not be treated as independent effects at all, since they may compound one another rather than acting in isolation. Displacement and collision are, however, correctly treated as distinct pathways because they are mutually exclusive at the level of an individual bird's flight: a bird displaced from the vicinity of a turbine is, by definition, not exposed to collision risk at that turbine, since collision risk arises specifically from flight activity within the rotor-swept zone (EIAR Chapter 6, Section 6.4.5.5). This reflects how the two effects operate in sequence, not a modelling convenience: the collision risk model's headline figures assume unchanged flight activity near turbines, so where displacement occurs, it would be expected to reduce that flight activity and correspondingly reduce collision risk below the modelled figure, rather than adding to it as a compounding pressure (EIAR Chapter 6, Section 6.4.5.5). The two pathways are reported separately because they act on different currencies, energetic cost and habitat availability for displacement, direct mortality for collision, not because their combined significance is disregarded. EIAR Chapter 6, Table 6-20 identifies a significant effect from operational disturbance and displacement for hen harrier, and Section 6.4.5.5 separately identifies a potentially significant effect from collision on the precautionary adult-mortality basis for both hen harrier and white-tailed eagle; both findings inform the scale of the compensation package addressed in response to Leitrim County Council submission, Item 1.

2. Pete Farrell makes an independent comparison of blade-swept area and tip speed against the existing Faughary turbines, implying that the larger, faster-moving rotors proposed here carry a materially higher collision risk than the operational turbines nearby, and that construction and operation should therefore be regarded as concurrent risks rather than being assessed separately.

Response

(2) Mr Farrell's blade-swept-area comparison against the existing Faughary turbines is correct: Faughary's turbines have an 82 m rotor diameter (EIAR Chapter 6, Table 6-25), against a worst-case 163 m rotor diameter used in the collision risk modelling for the proposed project, giving a swept area approximately four times greater. This is expected given the difference in turbine generation and scale, and the rotor swept area is built directly into the collision risk modelling process, so it is already reflected in the collision risk model findings rather than requiring separate assessment.

On construction and operation being assessed together: during Lissinagroagh's construction phase specifically, the proposed turbines are not yet rotating and therefore contribute no collision risk of their own, so combined collision risk from both projects does not arise during that period. The relevant combined pressure during construction is disturbance and displacement, not collision, and this has been assessed. Faughary has been operational throughout the entire multi-year survey period for the proposed project, so its displacement effect on hen harrier is already reflected in the baseline activity patterns the EIAR's surveys recorded, rather than being an additional pressure layered on top of them (EIAR Chapter 6, Section 6.4.7.1.1). Lissinagroagh's own construction-phase disturbance is addressed separately and directly through the CEMP's disturbance-free buffers (Appendix 2-4) and the confirmatory



pre-commencement survey mechanism addressed under the DAU Item 2 response above. Once Lissinagroagh itself becomes operational, combined collision risk from both projects does arise and is assessed directly in EIAR Table 6-26.

3. Kevin O'Reilly and the Save Dough Mountain Community Group challenge the applicant's use of an adult-mortality basis and a juvenile-mortality basis for hen harrier collision risk.

Response

(3) The two figures being challenged are 2.31%, calculated on an adult-mortality basis, and 0.56%, calculated on a juvenile-mortality basis. Both are expressed as a percentage increase in the natural (background) death rate of the hen harrier population, that is, the rate at which birds in the population die each year from ordinary causes such as predation, starvation and disease, before any turbine-related deaths are added. A screening threshold commonly used in this kind of assessment treats an increase of more than 1% above that natural rate as potentially significant; below 1%, the additional risk is generally not considered capable of affecting the population's trajectory.

The EIAR calculates this twice, using two different assumptions about which birds would actually be killed, because the two assumptions give materially different answers: on the more precautionary assumption that any birds killed would be full adults, which have the lowest natural death rate of any age class, the predicted turbine-related deaths represent a 2.31% increase in background mortality at the regional (Leitrim–Slieve Rushen–Cavan) population scale, above the 1% threshold. Adult birds are used for this precautionary calculation specifically because their low natural death rate means a small number of additional deaths shows up as a large percentage increase. If juvenile survival rates are applied instead, reflecting that some of the birds at risk would be less experienced younger birds with naturally higher death rates to begin with, the same predicted number of turbine-related deaths represents only a 0.56% increase, below the threshold. The position set out in the EIAR is that the real figure most likely lies somewhere between these two bounds (EIAR Chapter 6, Section 6.4.5.5).

The EIAR explains why the modelled figures are themselves likely to overstate the real-world risk: the collision risk model's headline figures assume birds continue flying around the site at the same rate the pre-construction surveys recorded, once the turbines are built and operating. But the EIAR separately predicts that hen harrier will be displaced away from the immediate vicinity of the turbines during operation, and displacement happens before collision risk applies, that is, a bird that is displaced away from a turbine is, by definition, not flying close enough to that turbine to be at risk of striking it. Because the model's predicted number of collisions is directly tied to how much flight activity it assumes near the turbines, if actual flight activity there falls as a result of displacement, actual collision risk falls correspondingly and would be expected to be considerably lower than the modelled figure (EIAR Chapter 6, Section 6.4.5.5, Table 6-20).

The DAU's submission, which engages closely with this assessment on other points, does not challenge the approach taken in the EIAR to determining the significance of predicted hen harrier collisions.

4. Kevin O'Reilly and the Save Dough Mountain Community Group challenge the applicant's use of an adult-mortality basis and a juvenile-mortality basis for white-tailed eagle collision risk and cite Heuck

et al. (2020)⁴⁷ to challenge the juvenile-survival assumption used to reduce predicted white-tailed eagle collision mortality. In support of the same challenge, the Save Dough Mountain Community Group's Appendix A (Local Knowledge Records) submits video evidence dated 9 June 2026, within the breeding season, said to show an adult white-tailed eagle together with a juvenile at Boleyboy. The observer indicates the presence of a nest at a location withheld from the submission and argues that this record is difficult to reconcile with the applicant's collision-risk assessment, which treats white-tailed eagle activity at the site as overwhelmingly dispersing juveniles.

Response

(4) For white-tailed eagle the correct juvenile-adjusted figure in EIAR Section 6.4.5.7 and Table 6-15 is 0.28 %, not the 0.56 % figure quoted in the submissions (that figure belongs to hen harrier and has been conflated with the wrong species). The adult-basis figure of a 2.6 % regional increase in background mortality does exceed the 1 % threshold. The EIAR relies on a juvenile-survival assumption (40 % juvenile against 94 % adult survival) to bring the predicted effect below the 1 % threshold, on the basis that site-specific survey data show white-tailed eagle activity at the site is dominated by immature, dispersing individuals rather than territory-holding adults: four recorded observations across three breeding seasons, all immature or sub-adult birds, none showing repeated or territorial use (EIAR Chapter 6, Section 6.4.5.7).

The video evidence submitted in Appendix A of the Save Dough Mountain Community Group's submission does not alter that characterisation. The submission states there is an adult bird accompanied by a second bird in June, claimed to be a recently fledged juvenile. The submission states there is an adult bird accompanied by a second bird in June, claimed to be a recently fledged juvenile. The EIAR does not claim there were no adults present at all; rather, it states that eagle activity was 'dominated' by juveniles. The submission asserts a nest is present but does not present any evidence or general locational information confirmed by NPWS or an independent, suitably qualified ornithologist that verifies this claim.

On the Heuck *et al.* (2020) study, the authors found that white-tailed eagle turbine-collision mortality in an established German breeding population was biased by sex rather than by age. That is a peer-reviewed finding, but it does not transfer to this site on a like-for-like basis. The German population studied by Heuck *et al.* includes a substantial cohort of territorial breeding adults exposed to turbines within their home ranges; the sex bias they identify arises within that population. Applying a juvenile-survival-based mortality adjustment to a population that, on the site-specific survey evidence, consists predominantly of dispersing immatures is a materially different exercise. In summary, the point made in the submission regarding using juvenile survival mortality to lessen the significance of collision on white-tailed eagle is not relevant.

The matter of collision significance for white-tailed eagle relates to a separate point on the recency of white-tailed eagle data, which is addressed in the survey recency theme below. The collision-risk model is based on two breeding seasons of site-specific white-tailed eagle activity data (EIAR Chapter 6, Section 6.2.3.2.1 and Table 6-2), all of it immature or sub-adult birds, with no confirmed or suspected breeding territory within 6 km of the site. The applicant accepts that

⁴⁷ Heuck, C., Herrmann, C., Wendt, J., Krone, O., Brandl, R. & Albrecht, J. (2020) Sex- but not age-biased wind turbine collision mortality in the White-tailed Eagle *Haliaeetus albicilla*. *Journal of Ornithology*, 161, 753–757. <https://doi.org/10.1007/s10336-020-01757-w>



this is a moving picture: white-tailed eagle flight activity at the site is likely to increase over the lifetime of the project as the reintroduced national population continues to expand. It is impossible to carry out a quantitative assessment based on speculation about changes in future activity levels. Should the population using the site shift toward territorial adults, the post-construction monitoring and adaptive-management commitments at EIAR Chapter 6, Section 6.4.11 provide the mechanism to identify that change and respond to it, which is the only appropriate way of addressing future population expansion.

A further winter season, 2025 to 2026, has since been surveyed with the results provided in the MKO Winter Bird Survey Report 2025-26, appended to this response as a supporting document, which brings the winter baseline fully up to date. The survey work undertaken included a full suite of VP surveys, hen harrier winter roost surveys and winter walkover surveys, and the work was undertaken as a proactive measure to further strengthen the ornithological evidence base and to anticipate potential requests for additional information during the determination process. Due to the timing of the surveys and associated reporting and the timelines for preparation of the EIAR and submitting the planning application, the resulting data could not be incorporated into the original assessment. The EIAR therefore reflects the ornithological dataset available at the time of application submission.

The 2025–26 winter survey season recorded a single white-tailed eagle, again an immature bird, which is consistent with modest activity levels and with the immature/dispersing characterisation used in the assessment.

It is worth noting that an increase in absolute activity does not automatically translate into a proportionately larger population-level effect, because a larger population would tend to dilute the relative contribution of any given level of collision mortality.

5. The Save Dough Mountain Community Group raises a further point about an unbounded “above 175 metres” flight-height survey band in the context of collision risk modelling stating that this pushes the predicted collisions down.

Response

(5) On the unbounded “above 175 metres” flight-height band raised by the Save Dough Mountain Community Group: this is an acknowledged feature of the survey methodology, not an oversight. The Avian Collision Risk Report (Appendix 6-14) confirms that flights recorded above 175 m were treated as being above the 185 m blade tip and were not counted toward potential collision height, on the stated basis that the difference between 175 m and 185 m is very small and is likely to be indeterminable in the field even by the most experienced surveyors. This choice is disclosed transparently as a limitation in Section 3.1 of that report and affects only the narrow top band of the 163 m rotor sweep, with only very few birds recorded in the >175 m height band. For example, the survey records for white-tailed eagle describe these observations in the >175 m height band as birds 'soaring high', consistent with flight activity well clear of, rather than marginally above, the 175 m threshold, and correspondingly well above the height at which they would represent a credible collision risk at the 185 m blade tip height. It therefore does not affect the collision risk conclusions for hen harrier or white-tailed eagle, which are driven by the much larger volume of flight activity recorded well within the rotor-swept zone.

2.2.45 Survey baseline, recency and geographical scope

A number of submissions query the survey baseline, recency and geographical scope as detailed herein.

1. Kevin O'Reilly submits that no hen harrier winter roost surveys have been undertaken since the 2021/2022 season, so that the winter baseline is four survey seasons old; the Save Dough Mountain Community Group extends this point, relying on CIEEM (2019)⁴⁸ guidance on the lifespan of ecological survey data, which recommends that baseline data be reviewed where there is potential for material change in site conditions, habitats or species populations over time.

Response

(1) Hen harrier winter roost surveys were undertaken in 2020/21 and 2021/22. The EIAR acknowledges that the 2020/21 non-breeding season data were approximately five years old at the time of assessment, sitting at the five-year threshold recommended by NatureScot (2025) guidance. The EIAR concludes that data remains valid because site conditions and habitats (forestry, peatland and agricultural land) have not materially changed in the intervening period. This is supported by non-breeding season data collected prior to 2020, which demonstrates a consistent pattern of use of the site over a longer timeframe than the 2020/21 and 2021/22 non-breeding seasons alone (EIAR Section 6.2.5.2). CIEEM (2019), as referenced by the Save Dough Mountain Community Group, is general ecological impact assessment guidance and is not written for onshore wind farm ornithology specifically; NatureScot (2025) guidance is the recognised, sector-specific standard for assessing bird survey data recency on wind farm developments. As noted above, the age of the non-breeding season data meets NatureScot (2025) guidance.

The above notwithstanding, a further winter season, 2025 to 2026, has since been surveyed with the results provided in the MKO Winter Bird Survey Report 2025-26, appended to this response as a supporting document, which brings the winter baseline fully up to date. The survey work undertaken included a full suite of VP surveys, hen harrier winter roost surveys and winter walkover surveys, and the work was undertaken as a proactive measure to further strengthen the ornithological evidence base and to anticipate potential requests for additional information during the determination process. Due to the timing of the surveys and associated reporting, and the timelines for preparation of the EIAR and submitting the planning application, the resulting data could not be incorporated into the original assessment. The EIAR therefore reflects the ornithological dataset available at the time of application submission.

The MKO Winter Bird Survey Report 2025-26 confirms a regularly used hen harrier winter roost, up to two birds, recorded in four of the six months surveyed. However, the roost is located some distance from the nearest proposed turbine, approximately 1.2 km, which is well beyond any disturbance buffer applied elsewhere in the EIAR assessment. Given the separation from the nearest turbine, direct habitat loss or displacement from this roost is not likely and the report therefore has no effect on the conclusions made in the EIAR Chapter 6.

3. Kevin O'Reilly raises that a 30-bird whooper swan flock and an earlier eight-bird record were not carried into the collision risk model and that daylight-only survey timing may have missed nocturnal

⁴⁸ CIEEM (2019). Advice Note on the Lifespan of Ecological Reports & Surveys.



migratory activity, further compounded by the absence of more recent winter bird surveys, suggesting that the conclusion of negligible collision risk is not supported by the available evidence. Separately, the Save Dough Mountain Community Group separately submits that the 2023 to 2025 migration-season survey coverage for whooper swan only partly captured the autumn and spring migration periods, questioning whether the migration season was properly captured by surveys.

Response

(3) On Kevin O'Reilly's whooper swan points: as stated in EIAR Chapter 6, Table 6-23, the 30-bird flock was recorded during a winter walkover survey rather than during a timed vantage point watch, and no flight height was recorded for it as a result. This is not merely a data gap: the collision risk model is built by extrapolating flight activity recorded during structured VP watches across the periods those watches represent, and an incidental record from a different, non-timed survey type falls outside that sampling framework. Including it in the CRM would not have made the model more complete, and its exclusion follows correct standard practice rather than an oversight. The eight-bird record was outside the collision risk zone. More generally, diurnal vantage point survey is the NatureScot-recommended standard methodology for onshore wind farm bird surveys, and the EIAR's flight activity survey programme followed it throughout (EIAR Chapter 6, Section 6.2.3.2.1).

The EIAR's collision risk estimates are corrected for nocturnal and crepuscular activity generally, following Band (2024) guidance. No nocturnal correction factor was applied specifically to whooper swan because zero flight lines were recorded within the 500 m collision risk zone during daylight flight activity surveys, and therefore there was no daytime risk baseline to scale up. This conclusion is reinforced by the 2025 to 2026 winter season survey data (MKO Winter Bird Survey Report 2025–26, appended): vantage point surveys recorded only a single whooper swan flight line all season, 18 birds on 20 March 2026, recorded flying north and outside the collision risk zone, consistent with the pattern recorded throughout the original survey programme. A further 30-bird flock was also recorded this season near Lough Melvin, 4 km from the site, again during a hen harrier roost survey rather than a VP watch and is treated as an incidental record for the same reasons set out above.

Furthermore, the EIAR notes, citing Jia *et al.* (2021) (EIAR Chapter 6, Section 6.4.3.2.1.2), that around 52% of whooper swan migratory flights occur in daylight, making it unlikely that significant nocturnal activity was missed, supporting the conclusion of negligible collision risk.

On the Save Dough Mountain Community Group's related point, that autumn and spring migration-season survey visits from 2023 onward only partly covered those periods: this is correct. The 2025 to 2026 winter season surveys, which ran from October 2025 to March 2026, add further coverage of the autumn arrival period and the early part of the spring migration period, and recorded no evidence of migratory movements of whooper swan overflying the collision risk zone during that window. Within the period surveyed across both the original programme and the 2025–26 season, the baseline conditions reported in EIAR Chapter 6 are consistently reflected.

In summary, the treatment of whooper swan data for collision risk modelling was appropriate and it is highly unlikely that any significant nocturnal flight activity was missed.

4. Kevin O'Reilly raises that historical golden plover flock observations of up to 100 birds were not matched by any winter survey effort after 2022, stating that in the absence of updated winter survey effort, it is not possible to conclude with confidence that previous levels of activity remain representative of current conditions or that the species use of the site has remained unchanged.

Response

(4) European golden plover is assessed in detail as a primary target species (EIAR Chapter 6, Table 6-19). The original assessment recorded a mean of seven observations per non-breeding season and three per breeding season. Although flocks of up to 100 birds were recorded, not regularly used roosting or foraging areas were identified within the proposed wind-farm site, and the great majority of recorded activity was recorded off-site near Dough Mountain.

Kevin O'Reilly's underlying concern, that no winter survey data had been collected for the species since 2022, is addressed directly by the 2025 to 2026 winter season survey data, provided in the MKO Winter Bird Survey Report 2025-26 (appended). The 2025-26 report recorded flocks of up to 64 birds across eight observations, but again no regularly used roosting or foraging areas were identified and the great majority of activity was associated with the wider Dough Mountain area, which is consistent in both scale and pattern with the non-breeding survey data reported in the EIAR, as well as the non-breeding season records collected prior to 2020. The updated baseline survey data therefore confirm that the conclusions in EIAR Chapter 6, Table 6-19 regarding European golden plover remain valid.

5. Kevin O'Reilly submits that no winter white-tailed eagle surveys have been undertaken since 2022, resulting in a failure to conduct a robust collision-risk assessment.

Response

(5) Collision risk modelling in relation to white-tailed eagle has already been discussed under the collision risk modelling theme and is not repeated in full here.

As highlighted above, a further winter season, 2025 to 2026, has since been surveyed with the results provided in the MKO Winter Bird Survey Report 2025-26 (appended to this document). The 2025 to 2026 winter season surveys recorded a single white-tailed eagle within the study area in March, soaring and mobbed by a buzzard, with no activities of note and no evidence of territorial or repeated use of any location. A further incidental record of two birds soaring and mobbed by corvids was made 5 km west of the study area, at Leckenarainey, in October, outside the study area and of no direct relevance to effects at this site. This is consistent with the non-breeding, transiting pattern recorded throughout the survey programme to date, and the report reinforces that flight activity for white-tailed eagle is currently modest, which means the collision risk model findings are still considered to be valid.

6. Fabian and Donna McMorrow submit that the area now occupied by proposed Turbine T3 was not included within the ornithological survey area until 2023 and ask whether the conclusions of Chapter 6 would be different if it had been included for the same duration as the other survey areas. Joseph Sheerin and Sabine Waniek raise study area and survey area boundary consistency questions without identifying a specific figure or discrepancy – it is assumed these submissions refer to the same point made by Fabian and Donna McMorrow.

Response

(6) Fabian and Donna McMorro are correct that the breeding walkover, winter walkover, red grouse and breeding woodcock survey areas used in 2021 and 2022, each of which were defined by suitable habitat within the proposed wind farm site plus a 500 m buffer around the turbines as laid out at the time, did not extend to the location now occupied by Turbine T3, for some of the earlier baseline bird surveys. This is explicitly shown in EIAR Chapter 6 Figure 6-3 and Figure 6-4. This is not, however, evidence of an unassessed ornithological baseline at this location. T3 fell within the breeding raptor survey area and hen harrier winter roost survey area throughout the same period and has been included in all breeding raptor surveys since, which are the survey types most directly relevant to the species most raised by the submissions for the project generally: hen harrier and white-tailed eagle.

For the two survey types where the gap reflects a genuine scope limitation, i.e. breeding red grouse and woodcock surveys, which have not been repeated since 2022, the breeding woodcock survey specifically targets suitable woodland habitat, and the Chapter 5 Annex I habitat mapping in the immediate vicinity of T3 (EIAR Figure 5-14) shows upland blanket bog, dry siliceous heath, poor fen and dry humid acid grassland, none of which is suitable woodcock habitat. The area would therefore not have fallen within that survey's scope regardless of the turbine layout at the time. The red grouse surveys confirmed grouse activity is principally off-site towards the Dough/Thur Mountains NHA, on the opposite side of the study area from T3, consistent with the species' known distribution at the site.

The MKO Winter Bird Survey Report 2025-26 (appended) recorded no species specific to this location beyond those already assessed elsewhere in this chapter. The reduced survey history for this specific location has not, therefore, affected the robustness of the ornithological baseline or the conclusions of this chapter.

7. Ian and Angeline Pudney and the Save Dough Mountain Community Group submit that no dedicated bird surveys were undertaken for the Grid Connection Route and Turbine Delivery Route accommodation areas, implying that bird effects along these off-site works areas may not have been assessed at all.

Response

(7) No dedicated bird surveys were undertaken for the Grid Connection Route or Turbine Delivery Route accommodation areas, as recorded in EIAR Chapter 6, Section 6.2.3.2. This was a deliberate, evidence-based methodological choice. The Grid Connection Route is located almost entirely within existing public road corridors, artificial habitats of negligible ornithological value, with only 10 m of hedgerow and 0.01 ha of woodland or scrub affected (EIAR Chapter 5, Section 5.4.2), while Turbine Delivery Route accommodation works are minor, verge-side measures, e.g. vegetation trimming, road edge straightening and small-scale tree removal, in already highly disturbed, regularly maintained roadside habitats (EIAR Chapter 6, Section 6.2.3.2). A precautionary 1 km desk-study buffer, based on Goodship *et al.* (2022), maximum reported disturbance distance for relevant bird species, was applied instead, together with incidental recording of any notable species during the habitat, bat and aquatic surveys that were carried out along these routes (EIAR Chapter 5, Section 5.2.1.2). Therefore, bird effects

have been assessed for both the Grid Connection Route and Turbine Delivery Route, using an appropriate level of baseline data.

8. *The Save Dough Mountain Community Group submits that one Turbine Delivery Route working area lies close to the Cummeen Strand Special Protection Area, implying a potential unassessed effect on that SPA's qualifying waterbird interests.*

Response

(8) A works area on the Turbine Delivery Route lies approximately 20 m from Cummeen Strand SPA. Cummeen Strand SPA is the one SPA that was screened in and taken forward for detailed assessment in EIAR Chapter 6, out of all designated sites considered (EIAR Chapter 6, Section 6.4.4, EIAR Chapter 6, Table 6-13), because of this proximity. The accommodation works there comprise short-term, temporary removal of traffic lights, poles, signage and a small number of immature saplings within an existing busy road median, landward of the shoreline, using hand tools and light plant, with no access to intertidal habitats (EIAR Chapter 6, Section 6.4.4). Applying the TIDE Waterbird Disturbance and Mitigation Toolkit's⁴⁹ published sensitivity thresholds for the SPA's qualifying species, light-bellied brent goose, Eurasian oystercatcher and common redshank, the EIAR concludes no effects above existing background levels, given the site's already highly disturbed, urban, high-traffic character. No significant effects on Cummeen Strand SPA are therefore predicted.

This aligns with the conclusion of the Natura Impact Statement, which concludes no adverse effect on the integrity of any European site, including Cummeen Strand SPA.

9. *Ian and Angeline Pudney and the Save Dough Mountain Community Group raise the applicant's 5 km eagle survey radius against NatureScot's 6 km guidance, stating the survey must be to 6 km to rule out harm to the species.*

Response

(9) NatureScot (2025) guidance recommends survey coverage up to 6 km specifically in areas where breeding white-tailed eagle are likely to be present. At the time surveys were designed and undertaken, there was no information suggesting possible breeding in the area, so a 5 km radius was applied, which is well beyond the 2 km radius recommended in NatureScot guidance. When NPWS later advised of a possible 2025 breeding attempt 5 to 6 km away, the applicant made a further, proactive data request to NPWS on 20 March 2026 specifically to establish whether any confirmed nesting occurred within 6 km. NPWS's response identified no confirmed nesting attempt within 6 km (EIAR Table 6-1, Section 6.4.5.7).

The purpose of the 6 km survey buffer is to determine whether birds are present in the wider area and therefore could potentially be susceptible to collision or displacement from foraging areas given their large foraging ranges. Activity within/adjacent to the proposed wind farm site would have been picked up by other surveys and collision risk estimates and displacement assessments (the latter of which are less relevant to white-tailed eagle for the proposed project due to a lack of sensitive locations within the wind farm site and immediate surrounds) and would be unaffected by whether surveys extended to 5 km or 6 km.

⁴⁹ <https://www.tide-toolbox.eu/> [last accessed 18/08/26]



2.2.46 Cumulative effects

A number of submissions query cumulative effects with regards to ornithology as detailed herein.

1. *Mark O'Hara cites the NPWS-confirmed white-tailed eagle turbine mortalities in Co. Donegal as relevant to cumulative, national-level effects on the species.*

Response

(1) Mark O'Hara's citation of NPWS-confirmed white-tailed eagle turbine mortalities in Co. Donegal is accurate: NPWS confirmed that three white-tailed eagles, two tagged males at Anarget Windfarm, Meenacloghspar, Inver, and one female at Cornacahan near Killybegs, were killed by turbine strikes between October 2024 and May 2025⁵⁰.

A cumulative assessment for white-tailed eagle has been undertaken in this EIAR (EIAR Chapter 6, Section 6.4.7), following the best-practice guidance, IWEA (2012) and NatureScot (2025), which frame cumulative assessment at a defined regional study radius appropriate to the species and project, not at a national scale. Extending cumulative assessment for a single project's contribution to national-level effects on a species, as O'Hara's submission implies is required, would not be consistent with that guidance or with the proportionality it is designed to secure; the correct test is the project's own contribution combined with other developments within the recognised study area, which has been carried out.

Even if it was done, based on current data the value of a national cumulative collision risk assessment for white-tailed eagle would be extremely limited because most of the individual assessments will be based on older data, which by the nature of the expanding white-tailed eagle population, won't include white-tailed eagle flights. Thus, a meaningful quantitative assessment of future risk is impossible.

2. *Liam Murray submits that the EIAR's raptor movement study radius of 20 km is too narrow for cumulative assessment and cites a BBC report on Glengariff-tagged eagles with a flight path said to pass over Leitrim and Lough Melvin.*

Response

(2) Liam Murray's citation of a BBC report on Glengariff-tagged eagles ranging as far as Leitrim and Lough Melvin describes the same national reintroduction and tagging programme the EIAR itself relies on (EIAR Chapter 6, Section 6.4.5.7, citing NPWS, 2026, on satellite-tracked juvenile dispersal), which confirms that tagged juveniles routinely disperse widely across the country and is reflected in the records of immature birds during the more recent surveys at the proposed project site. This wide-ranging juvenile dispersal is already built into the EIAR's collision-risk approach, which treats recorded white-tailed eagle activity at the site as predominantly immature, dispersing birds rather than territory-holding adults.

⁵⁰ NPWS-confirmed White-tailed Eagle turbine mortalities, Co. Donegal: two tagged male eagles killed by the same turbine at Anarget Windfarm, Meenacloghspar, Inver, and one female killed by a turbine at Cornacahan, near Killybegs, between October 2024 and May 2025, reported October 2025 in connection with the Graffy Wind Farm (Cuilfeach Teoranta) appeal, ABP/ACP Ref. 318525-23. See e.g. Donegal Daily, 'Three white tailed eagles killed by wind turbines in South Donegal', 2 October 2025.



The 20 km study area Liam Murray criticises is the cumulative effects assessment radius, not a limit on how far individual raptor movements were tracked. It follows IWEA (2012) guidelines and corresponds to the largest recognised core foraging distance for any relevant species considered in cumulative terms (EIAR Section 6.2.2.2.1, EIAR Chapter 6, Section 6.4.7). A wider cumulative radius than 20 km, extending toward a national or regional scale, would not be proportionate to the scale of this project or consistent with recognised guidance, and would not improve the assessment's ability to identify genuine cumulative effects.

3. Joseph Sheerin submits that information from Faughery (also spelled Faughary elsewhere) Wind Farm should have been fully assessed because it provides operational evidence from the adjacent wind farm landscape.

(3). Faughary Wind Farm is explicitly considered in the cumulative impact assessment, as detailed in EIAR Chapter 6, Sections 6.4.7.1.1 and 6.4.7.1.2.

2.2.47 Effects on other bird species

A number of submissions query the effects on other bird species as detailed herein.

1. Common buzzard, raised by multiple submitters as sightings alongside hen harrier.

Response

(1) Common buzzard presence is confirmed by extensive flight activity data (EIAR Section 6.3.3) and the numerous lay sightings reported are not disputed. The species is Green-listed under Birds of Conservation Concern in Ireland 4 (BoCCI4)⁵¹, Ireland's best conservation status category, reflecting a secure, widespread and increasing population nationally and it was therefore not carried forward for detailed species-specific assessment, as it is neither Annex I-listed nor identified as being at significant collision or displacement risk, at a population level, during scoping (EIAR Chapter 6, Tables 6-11 to 6-13).

2. Red grouse, raised as a general lay presence claim by multiple submitters; Rossinver Gun Club also describes existing self-imposed shooting restrictions to protect the species and is concerned the proposed project will undo their work.

Response

(2) Red grouse is confirmed present and was recorded during a dedicated 2022 census survey (EIAR Section 6.2.3.2.6) and was assessed as a secondary target species. Red grouse was not scoped in for detailed impact assessment (Chapter 6, Table 6-11) as it was judged that no realistic pathways for significant effects on this species exist.

3. Sand martin, the subject of five submissions stating that sand martin has not been assessed in the EIAR and could be impacted by the proposal. The most precise of these submissions is the Save Dough Mountain Community Group's record of a nest bank supported by GPS coordinates and photographs, described in the submission as approximately 25 m from proposed Turbine T8; Nuala McNulty separately records a nest bank approximately 50 m from "the nearest turbine".

⁵¹ Gilbert, G., Stanbury, A., & Lewis, L. (2021). Birds of Conservation Concern in Ireland 4: 2020– 2026. Irish Birds, 43, 1.



Response

(3) Review of the GPS coordinates supplied with the Save Dough Mountain Community Group's submission indicates the sand martin nesting bank is approximately 338 m from Turbine T8 (see Figure 2-4 and Figure 2-5), not 25 m as stated in the submission; the site is well outside any construction or operational buffer applied elsewhere in this assessment. Nuala McNulty's separate record of a nest bank approximately 50 m from "the nearest turbine" (no co-ordinates given) cannot be verified but is considered likely to refer to the same colony reported by the Save Dough Mountain Community Group.

Sand martin is a colonial, burrow-nesting species and was not a primary flight-activity survey target, consistent with current NatureScot (2025) guidance, under which species of this kind are not generally considered significantly impacted by wind farms (EIAR Section 6.2.3.2.1.1.1). The construction phase already includes standard pre-commencement checks for active nests of any bird species within the working footprint, and any active sand martin nest site identified during these checks would be protected by a construction exclusion buffer until the breeding season has concluded, consistent with the general nesting-bird protection measures already committed to in the CEMP (EIAR Appendix 2-4). No destruction of an active sand martin nest site would therefore occur as a result of this proposed project. The applicant would also be willing to consider additional mitigation, e.g. the construction of an artificial sand martin nesting wall as a further, voluntary compensatory measure in the unlikely event that pre-construction checks identify a need for it, subject to agreement with NPWS and Leitrim County Council.



Sand Martin Nesting SITE 2 in proximity to proposed T8 site 19th April 2026 (Joe Sheeran) (54.3281766388889, -8.114148333333336)

Figure 2-4: Image of Sand Martin Colony Included with ‘Save Dough Mountain’ Submission

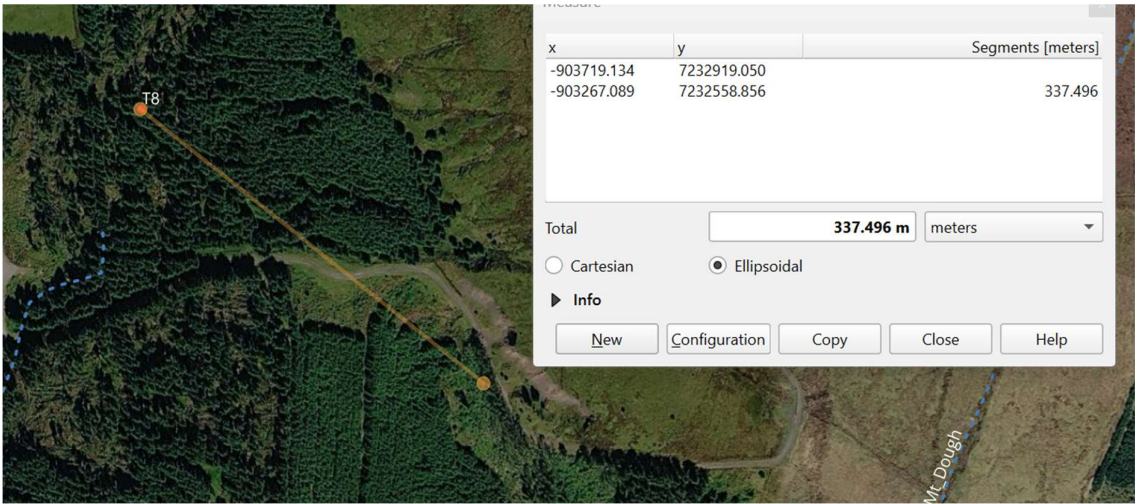


Figure 2-5. Measurement Showing Location of Turbine T8 Relative to Sand Martin Nest



4. Chough and peregrine falcon, raised by several submitters including Joseph Sheerin, in the context of the Sligo/Leitrim Uplands SPA, implying that these SPA-qualifying species should have been given more direct site-specific assessment.

Response

(4) Peregrine falcon was recorded during the raptor survey programme, which covered a 5 km radius around the site (EIAR Section 6.2.3.2.4). Chough was not recorded during any surveys undertaken. Peregrine was recorded during flight activity surveys in one breeding season, 2025, at low levels, three observations. In the context of assessing the Sligo/Leitrim Uplands SPA, which is designated for peregrine falcon and red-billed chough, that SPA lies 9.2 km from the wind farm site itself but only 216 m from one turbine delivery route accommodation area (EIAR Tables 6-11, 6-13). Both chough and peregrine falcon were scoped out of detailed assessment in the EIAR. Chough due to a complete lack of survey records and peregrine because of their core foraging range, around 2 km (NatureScot, 2016⁵², as cited at EIAR Table 6-11), which places the wind farm site well outside their functional range from any nests within the relevant SPA, and no on-site breeding was confirmed for either species. While the SPA is 216 m from one turbine delivery route accommodation area, it was assessed there was no plausible pathway for effects on chough or peregrine due to disturbance (see Table 6-13, EIAR Chapter 6) owing to screening features present, the lack of desk records for either species and lack of suitable habitat types in the works' footprint and the nature of the works proposed.

5. Skylark, meadow pipit, common cuckoo and common snipe, raised by several submitters as general presence claims, in the same manner as sand martin above; none is accompanied by a site-specific impact concern beyond presence apart from skylark, with Dorothee Kolle submitting that skylark will lose their habitats.

Response

(5) Skylark, meadow pipit and common cuckoo are passerine (or near passerine, in the case of cuckoo) species excluded from primary and secondary survey targets for the reasons already given under the response to Leitrim County Council's submission, Item 3, which explains that NatureScot best-practice guidance does not treat passerines as target species for onshore wind farms. Common snipe is directly assessed as a primary target species (EIAR Chapter 6, Table 6-17) and no significant effects are predicted. None of the presence claims for any of these species is disputed as a matter of fact.

6. Eurasian curlew raised generally and, by Marie Sheerin, with a specific location and photographic evidence at Lough MacNea.

Response

(6) Eurasian curlew was considered as a candidate target species but was not recorded during any survey over the 2017 to 2025 survey programme and was accordingly not carried forward for species-specific assessment. A species entirely absent from the survey record across an extensive campaign of fieldwork does not require a dedicated impact assessment.

⁵² NatureScot. (2016). Assessing Connectivity with Special Protection Areas (SPAs) Guidance.



The wider ecological value the submitters attach to curlew presence in the general area is not disputed; the point at issue is only whether the species has been recorded at, or is likely to be materially affected by, the proposed development itself, which the survey record does not support.

Marie Sheerin's photographic record of curlew at Lough MacNea is off-site (at least 10 km) and does not establish a pathway for a significant effect from the proposed project.

7. Common kestrel, common kingfisher and grey heron, raised by Darren Sweeney and Kiltyclogher Community Council as species present in the wider Dough Mountain area, implying these species should have been given more direct assessment in the EIAR.

Response

(7) Common kestrel is assessed in detail in the EIAR (EIAR Chapter 6, Table 6-16). No significant effects on common kestrel are predicted following the implementation of proposed mitigation measures. Common kingfisher was not recorded at the site at any point in the survey programme and no assessment was therefore required. Grey heron is green-listed under BoCCI4 and is not listed on Annex I of the Birds Directive, so it was not a species of conservation concern requiring detailed assessment. Kiltyclogher Community Council's reference to these species in a historic local-trail context does not identify a specific project-related impact pathway for either.

8. Ring ouzel and great spotted woodpecker were each raised once, generically, with no sighting detail, date or location.

Response

(8) Ring ouzel and great spotted woodpecker were each raised once, generically, with no sighting detail, date or location, and neither was recorded during survey work carried out to inform the EIA. Given the lack of survey records neither species was carried forward for species-specific assessment. A species entirely absent from the survey record across an extensive campaign of fieldwork does not require a dedicated impact assessment.

9. Eurasian sparrowhawk, raised once, generically, by Philip Wakeling and Deirdre Blair, with no sighting detail.

Response

(9) Eurasian sparrowhawk was raised once, generically, by Philip Wakeling and Deirdre Blair, with no sighting detail. The species is not included in the EIAR's target species list. This is not an omission: sparrowhawk is Green-listed under BoCCI4, Ireland's best conservation status category, and is neither Annex I-listed nor otherwise flagged as being at significant collision or displacement risk from wind farms; it is common and widespread in Ireland and does not meet the conservation-significance criteria (EIAR Chapter 6, Section 6.2.3.2.1.1) used to determine which species are brought forward for baseline survey and assessment. No site-specific evidence has been presented in this submission to suggest the species warrants a different approach at this location.

10. Golden eagle, raised by Treasure Leitrim and referenced in passing by other submitters, on the basis of reports of the species dispersing into the area from the reintroduced Donegal population, implying



the site may become more important for the species as that population continues to expand and therefore warrants assessment now.

Response

(10) Golden eagle presence is confirmed but very limited: a single immature bird was recorded once, in the 2020/21 non-breeding season, circling over conifer plantation before flying away, and was not recorded in any other season across the six-season survey programme (EIAR Section 6.3.3, species activity table) or the 2025/26 non-breeding season. There is no evidence of regular or functional site use by breeding or roosting birds in any survey season, and no confirmed or suspected breeding territory has been identified. Ireland's reintroduced golden eagle population, established from 2001, remains small and has not expanded significantly since reintroduction (McAuliffe *et al.*, 2024)⁵³, and on this basis it is considered unlikely that the wind farm site will become functionally important for the species in the foreseeable future. Golden eagle was accordingly scoped out of detailed assessment (EIAR Chapter 6, Table 6-11). No site-specific evidence has been presented in the submissions to suggest a different approach is warranted.

11. *Our Native Glens submits generally that the site's habitat for birds of prey and upland breeding birds is evidence the landscape is unsuitable for industrial-scale development.*

Response

(11) Our Native Glens' general submission, that the presence of birds of prey and upland breeding birds at the site is itself evidence the landscape is unsuitable for development, is answered by the species-specific findings set out throughout this response: presence has been assessed in detail for each relevant species, and only breeding hen harrier and, on a precautionary basis, white-tailed eagle collision risk require the compensation and mitigation measures described above under the 'hen harrier – adequacy of proposed habitat compensation' section, submission response to Item 4.

12. *Cllr Eddie Mitchell, Cllr James Gilmartin (bulleted reference) and Chris Killalea raise a general concern regarding "protected bird species" without naming particular species.*

Response

(12) Cllr Eddie Mitchell, Cllr James Gilmartin (bulleted reference) and Chris Killalea's general concern regarding "protected bird species" is answered by the detailed, species-by-species assessment set out within EIAR Chapter 6, Sections 6.4.4 and 6.4.5 (Tables 6-16 to 6-23), summarised under the relevant themes throughout this response.

13. *Joanne Fox, Noel Fox and family submit that the upland bog and forestry of Dough Mountain are documented foraging and nesting grounds for Eurasian curlew and merlin. Kiltyclogher Community Council separately references Dean's Lake and the wider Dough Mountain area as habitat for whooper swan, common buzzard, common kestrel and grey heron.*

⁵³ McAuliffe, F., Wilson-Parr, R., O'Toole, L., Marnell, F., & Reid, N. (2024). Prey deficit for reintroduced Golden Eagles (*Aquila chrysaetos*) in Ireland (pp. 72–83). Irish Naturalists Journal Ltd. <https://pure.qub.ac.uk/en/publications/prey-deficit-for-reintroduced-golden-eagles-aquila-chrysaetos-in-/>



Response

(13) Whooper swan is directly assessed in the EIAR (EIAR Chapter 6, Table 6-20; EIAR Chapter 6, Table 6-23) and no significant effects are identified. Common buzzard, common kestrel, Eurasian curlew, merlin and grey heron are addressed earlier under this theme (see responses 1, 4, 6 and 7).

2.2.48 Legal and precautionary-principle grounds (Birds Directive, Habitats Directive Article 6(3))

A number of submissions query the legal and precautionary principle grounds for the project as detailed herein.

1. *Conor Maguire cites Grace and Sweetman v An Bord Pleanála in support of a strict application of the mitigation-versus-compensation distinction to hen harrier, implying that this application should be refused, or its compensation package disregarded, on the same legal basis as that case.*

Response

(1) The distinction between Grace and Sweetman and this application is set out in full under the ‘hen harrier – adequacy of proposed habitat compensation’ theme above in response to Item 1.

2. *Conor Maguire cites Cahermurphy Wind Farm, Co. Clare, and the “Ballydesmond and Gneeveguilla” wind farm litigation, as further precedent, implying that An Coimisiún Pleanála and the courts have refused or overturned wind farm consents on materially similar cumulative ornithological grounds, and that a similar outcome should follow here.*

Response

(2) Cahermurphy Wind Farm, Co. Clare⁵⁴, was refused by An Bord Pleanála in March 2023, but its stated reasons centred on unacceptable cumulative ornithological impacts, in combination with several other nearby wind farms in a heavily developed part of west Clare, and separately on inadequate peat stability assessment, rather than on the hen harrier displacement and compensation issues raised in this application. That decision was also subsequently quashed on appeal and remitted for a fresh determination. The Cahermurphy decision therefore does not support Conor Maguire's argument as directly as his submission suggests and is distinguished from Lissinagroagh both on its facts and on its unsettled procedural history.

The “Ballydesmond and Gneeveguilla” wind farm litigation is a decided case: *Sliabh Luachra Against Ballydesmond Windfarm Committee v An Bord Pleanála*, in which the High Court (McDonald J., December 2019) quashed a November 2018 Board permission for a 14-turbine wind farm on the Cork/Kerry border, on the ground that it was unclear from the Board's own inspector's report how a conclusion could have been reached that all potential impacts on hen

⁵⁴ An Bord Pleanála, Cahermurphy Wind Farm (10 turbines), Co. Clare, ABP Ref. 311044-21, decision March 2023 (refusal upheld a prior Clare County Council refusal). The Board's stated reasons included unacceptable cumulative ornithological impacts (in combination with other wind farms in the area, including hen harrier) and inadequate peat stability assessment. This decision was subsequently quashed on appeal and remitted to the Board for fresh determination under Case Ref. ABP-318525-23. This is undetermined at the date of this response. The applicant has since brought forward a redesigned scheme on the same site, Cahermurphy West (8 turbines), lodged with An Coimisiún Pleanála in March 2026 and undetermined at the date of this response.



harrier had been satisfactorily resolved. Conor Maguire's account of the case is accurate as far as it goes. The basis for the quashing does not, however, transfer to this application: the deficiency identified by the Court was an unexplained gap in the Board's own reasoning on hen harrier and there was no finding that habitat compensation is inadequate as a matter of principle. The proposed project does not share that reasoning gap. The significant hen harrier effect is expressly acknowledged (EIAR Chapter 6, Table 6-20), the compensation methodology and its evidential basis are set out in detail (OBMP Appendix 6-13, Appendix 6-12), and the reasoning connecting the identified effect to the proposed response is transparent and capable of being tested on the evidence, which is what the Ballydesmond decision found lacking. The relevant comparator for this application is whether the Applicant's reasoning is adequately explained and evidenced, which it is, rather than the fact that an objection relating to effects on hen harrier from a wind farm has previously succeeded.

3. Gavin Mc Gowan seeks confirmation of Birds Directive compliance.

Response

(3) Compliance with the Birds Directive is addressed throughout EIAR Chapter 6 and the accompanying Natura Impact Statement (EIAR Chapter 6, Section 6.1.4.1, Appendix 6-1).

4. Rita McNulty and Shane & Gráinne Ward frame the use of compensation measures, habitat enhancement, monitoring and adaptive management for hen harrier around Article 6(3) of the Habitats Directive and a "reasonable scientific doubt" standard, suggesting that this has not been met.

Response

(4) Article 6(3) of the Habitats Directive, and the reasonable scientific doubt standard associated with it, applies to the Appropriate Assessment of effects on European sites, which concluded that there is no potential for a likely significant effect on any European site, including those designated for hen harrier, whether alone or in combination with other plans or projects: the relevant assessment framework for the hen harrier effect identified in this EIAR is EIA and CIEEM significance assessment (EIAR Chapter 6, Section 6.2.6.2), as required under the European Communities (Birds and Natural Habitats) Regulations 2011, which does not require a reasonable scientific doubt standard. Rita McNulty's and Shane & Gráinne Ward's framing of this project as an Article 6(3) case is therefore not correct

2.2.49 Other ornithology matters

A number of submissions queried other ornithology matters as detailed herein.

1. Liam Murray and Kevin O'Reilly submit that the sheep-carcass-clearance mitigation for white-tailed eagle and common kestrel is impractical on a large, remote site with little footfall, such that a carcass is unlikely to be found within the 24-hour response window.

Response

(1) EIAR Chapter 6, Table 6-24 commits to removing livestock carcasses and other large animal remains from the site as soon as practicable, and in any case within 24 hours of discovery, to



avoid attracting scavenging raptors into the turbine area, citing Lonsdorf et al. (2023)⁵⁵ as evidence that this is a recognised, practical measure to reduce eagle exposure to anthropogenic mortality risk. This commitment is confined to the operational site, which is where the raptor-attraction risk the measure addresses actually arises; it is not, and does not need to be, extended to the wider Farm Plan foraging enhancement lands, which lie outside the turbine area envelope. The applicant has committed to this (EIAR Chapter 6, Section 6.4.3.2.1.1) and it therefore will be done, with the literature showing that it can be done and can be successful.

2. Pete Farrell submits that new and upgraded access tracks make previously inaccessible upland terrain easier for opportunistic predators to reach, adding pressure on ground-nesting species.

Response

(2) The area already has an extensive network of public roads and forestry tracks providing existing access across the site and surrounding uplands for opportunistic ground predators such as fox, badger and brown rat. The access tracks and improvements associated with this project are incremental additions to that already-permeable landscape, not substantially new routes into terrain that is otherwise inaccessible, and the proposed development will not materially change the level of predator access to ground-nesting bird habitat in this area on that basis.

3. Darren Sweeney (submitted via agent Liam Madden, Vitruvius Hibernicus) submits a technical/legal “lacunae” argument: citing the applicant’s own EIAR page references for hen harrier, buzzard, kestrel and white-tailed eagle flight-path and collision-risk mapping, he submits that the EIAR’s own stated conclusions confirm collision risk, habitat loss, and disturbance and displacement impacts for these species, and that the EIAR’s overall “no significant effect” conclusion is accordingly not reliable.

Response

(3) Mr Sweeney’s submission cites the applicant’s own EIAR page references correctly: the EIAR does confirm, in terms, that collision risk, habitat loss, and disturbance and displacement effects arise for hen harrier, and that a significant effect on breeding hen harrier is identified before compensation is applied (EIAR Chapter 6, Table 6-20). This is not a lacuna; it is the standard, and required, sequence under environmental impact assessment methodology: identify and quantify the effect, then set out the avoidance, mitigation and compensation measures that address it, then reach an overall conclusion having regard to those measures. In summary, the ‘no significant effects conclusion’ does consider the proposed mitigation and compensation measures.

2.2.50 Concern about birthplace of Seán Mac Diarmada

One submission by Claire O’Hara notes concerns about impacts on the heritage of the area, including the birthplace of Seán Mac Diarmada. This site is recorded in Chapter 14 of the EIAR as AH132. AH132 is a National Monument and as such is considered as being of Very High sensitivity. Following the application of the methodology outlined in Chapter 14, utilising the

⁵⁵ Lonsdorf, E. V, Gerber, J. S., Ray, D., Slater, S. J., Allison, T. D., & Eric Lonsdorf, C. V. (2023). Assessing carcass relocation for offsetting golden eagle mortality at wind energy facilities. <https://doi.org/10.1002/jwm.22478>



Zone of Theoretical Visibility mapping and photomontages, it is determined that the site will be subject to indirect impacts of very low magnitude, resulting in a slight negative effect.

2.2.51 AH01 (RMP Nos. LE008-006001 & LE008-006002) separation distance from T3 excavation works

One submission by Fabian and Donna McMorro notes that the distance measurements given in Chapter 14 of the EIAR are measured from the Turbine locations rather than associated infrastructure. This is correct, as these measurements are used to assess the potential for indirect visual impacts. Where associated infrastructure impacts archaeological, architectural or cultural heritage receptors this is stated specifically.

The submission notes that a proposed interceptor drain is located between AH01 and T3. This is a proposed shallow interceptor drain included in the drainage design, which can be moved to ensure it doesn't encroach into the Zone of Notification of AH01. The proposed drain will not directly impact AH01 itself, and its excavation will be subject to archaeological monitoring, which is an appropriate mitigation and in line with industry standard. If archaeological remains are identified during the course of these works, further mitigation will be implemented as required and agreed with the NMS of the DoHLGH.

AH03 (RMP No. LE008-005 – Wedge Tomb) incorrectly located

One submission by Fabian and Donna McMorro note that the location for AH03 is incorrectly located in the EIAR. Their submission refers to a wedge tomb (RMP No. LE008-005), although in the EIAR this is recorded as AH04. The submission appears to have confused the two monuments, which are both correctly located in the EIAR as per their Historic Environment Viewer record and RMP. The submission also states that AH03/AH04 is not located on a map, although both are shown on Figure 14-7 in Appendix 14-1. The submission refers to a monument at the location of ITM 591704, 844725, although neither AH03 nor AH04 are located at this position.

A submission by Justin McMorro also refers to a monument at this location. The given coordinate is located c. 820 m to the southwest of the wedge tomb AH04 (RMP No. LE008-005). No monument is recorded on public registers, or is marked on historic mapping, at the location given in the submission and it is noted that the image provided in the submission does not accurately correlate with the Historic Environment Viewer description of AH04, which describes a single chamber formed of three slabs, open to one side. A wedge tomb typically consists of a flat capstone that rests on three side walls, which are often formed of several stones. If the feature located at ITM 591704, 844725 is an unrecorded wedge tomb, it is a collapsed example and has a theoretical visibility of 4–6 turbines. It may be subject to indirect negative effects, although these will not be significant.

2.2.52 “Seven Rooms” cave system

Several submissions refer to the “Seven Rooms” cave system located on Saddle Hill. These caves are not recorded on any registers and are not depicted on historic maps. A single reference to the caves has been found, which records a local tradition that a group of Redcoats once hid there

(The Schools' Collection, Volume 0212, Page 176). This was recorded by a school in Glasdrumman townland, outside the 2km study area for cultural heritage.

The co-ordinates provided in a submission from Fabian and Donna Mc Marrow show turbine T3 is located at a distance of approximately 214 m to the cave. The infrastructure fill for the hardstand of T3 is in proximity to the cave entrance. The extent of the cave is unknown. All construction works in this area will be supervised by a geotechnical engineer. An archaeologist will also monitor construction works in this area. No direct works are proposed to the cave.

2.2.53 Sub-Surface Archaeology and Direct Impacts

Several submissions note that there may be impacts to potential sub-surface archaeological features. The construction of the proposed wind farm site, grid connection and turbine delivery route will not result in any direct, negative effects on the upstanding remains of recorded archaeological sites. Direct impacts have been identified to the Zone of Notification of nine monuments where the proposed grid connection or TDR pass through the Zones. Within these areas there is the potential for sub-surface archaeological features to survive. In the case of the grid connection and TDR accommodations, it is likely that the construction of the existing road infrastructure will have disturbed/removed potential associated features.

Appropriate mitigation measures have been proposed in EIAR Chapter 14 to ensure that any potential sub-surface archaeological features are identified and recorded/preserved. The mitigation strategy of test trenching prior to construction, as well as monitoring of ground disturbances, is appropriate for the development, in line with industry standard and approved within the DoHLGH submission. As noted in the chapter, 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 DoHLGH.

2.2.54 Passage Tomb Landscape of County Sligo

One submission notes that the Passage Tomb Landscape of County Sligo, submitted to UNESCO for Ireland's World Heritage Tentative List is located 27–28 km to the southwest of the nearest proposed turbine. The submission is correct in this assertion, although this is beyond the maximum 10km study area for sites of national significance as outlined in Section 14.1.5 of Chapter 14.

2.2.55 Project Splitting

The wind farm and its associated grid connection were submitted to ACP as two separate planning applications, as is required under the Planning and Development Act, 2000:

- The wind farm is submitted under Section 37E of the Planning and Development Act; and
- The grid application is submitted under Section S182A.

This does not constitute project splitting which is defined as *"A tactic where a larger project is divided into smaller parts to evade comprehensive environmental assessments."*⁵⁶

⁵⁶ Coyne v An Bord Pleanála: A Landmark Judgment on Environmental Impact Assessment and Project-Splitting in Ireland: High Court of Ireland | CaseMine



The Lissinagroagh planning application documents and specifically, the submitted EIAR assesses the wind farm and the full grid connection as a single, integrated project, including all combined and cumulative effects. The EIAR contains a full cumulative assessment of other existing, permitted and proposed projects in the region, ensuring complete transparency on turbine concentration and overall impacts. The proposal therefore meets the NPF's requirement for plan-led, appropriately assessed renewable-energy development, and the use of two ACP applications does not undermine cumulative assessment nor conflict with national planning principles. This approach was confirmed as appropriate by ACP under pre application references ACP 323353-25 and ACP 323048-25.

The proposed project was also cross referenced in both applications, statutory notices and within the EIAR.

2.2.56 Alternative Energy Sources

A number of submissions suggest that wind energy should be developed offshore instead of onshore, or that greater emphasis should be placed on solar energy developments. It has also been submitted that approximately 92 MW of the County's renewable energy target of 200 MW by 2030 has already been achieved and that solar energy should therefore be pursued instead of further wind energy development.

These submissions imply that further onshore wind development is unnecessary or inappropriate in County Leitrim.

In response, it is important to clarify both the wider national policy context for renewable energy and the status of the relevant Development Plan provisions. It is also relevant to note the obligations arising under Section 15 of the Climate Action and Low Carbon Development Act 2015 (as amended), which require public bodies, insofar as practicable, to perform their functions in a manner consistent with relevant climate action policy and national climate objectives.

In *Coolglass Wind Farm Ltd v. An Coimisiún Pleanála*, the Supreme Court confirmed that Section 15 imposes a substantive obligation on decision-makers and that planning functions must be exercised consistently with the statutory climate framework, while also recognising that such obligations must be applied within the broader planning code and the circumstances of each case. While the current Development Plan remains the statutory planning framework for the County, it was prepared prior to these developments and therefore may not expressly reflect all subsequent policy changes. Accordingly, caution should be exercised in relying on the renewable energy targets contained in the Plan as representing the full extent of the County's contribution to renewable energy delivery over the lifetime of the Plan. In considering proposals for renewable energy development, it is appropriate to have regard not only to the provisions of the Development Plan but also to the broader and evolving national climate, energy and planning policy framework, including relevant obligations under the Climate Action and Low Carbon Development Act 2015 (as amended).

In the context of Ireland's energy transition, onshore wind remains a critical pillar, alongside offshore wind and solar in delivering the Climate Action Plan targets and Ireland's binding 2030 climate commitments. While Ireland has significant offshore wind potential, particularly along

the Atlantic coast, the timeline for large-scale offshore deployment is lengthy due to economic challenges, complex consenting processes, substantial grid-infrastructure requirements, and high capital costs. Solar energy, though expanding rapidly, began from a very low baseline and still represents a modest share of Ireland's renewable electricity. As recently as 2025, solar provided just 4%⁵⁷ of national renewable energy generation. By contrast, onshore wind is a mature, cost-effective, and readily deployable technology capable of providing significant renewable capacity in the short to medium term.

Under the Climate Action Plan 2025, Ireland must deliver 9 GW of onshore wind, 8 GW of solar PV, and at least 5 GW of offshore wind by 2030. Achieving this balanced mix is critical for maintaining grid stability, meeting interim emissions-reduction milestones, and ensuring energy security on the path to net zero by 2050. Onshore wind also offers important regional benefits, including local investment, employment, and community benefit funds. Its generation profile complements solar production, delivering renewable electricity during darker, windier periods when solar output is low. Without continued onshore wind development during the offshore build-out phase, Ireland risks falling short of its legally binding 2030 targets and increasing reliance on fossil fuels.

Furthermore, the submission that approximately 92 MW of the County's 200 MW renewable energy target has already been delivered does not alter the need for additional renewable energy development. Such targets do not represent a cap on renewable energy generation within the County, nor do they establish that renewable energy development should cease once a particular threshold has been reached. Rather, renewable energy targets are intended to guide and facilitate the delivery of renewable infrastructure in support of national decarbonisation, energy security and climate objectives. It is also noteworthy that a substantial capacity gap remains between the approximately 92 MW delivered and the County target of 200 MW. The proposed development has the potential to make a significant contribution towards closing that gap and advancing the achievement of both local and national renewable energy. The assessment of any individual proposal must therefore be based on its planning and environmental merits, compliance with the relevant policy framework and the suitability of the site for the proposed form of development.

Recent wars in Eastern Europe and the Middle East have exposed Ireland's vulnerability to external geopolitical risk and the overreliance on imported energy sources. In this context, renewable energy infrastructure assumes strategic importance, helping to reduce dependence on imported fuels while strengthening the resilience of the national electricity system.

A 2025 report prepared by Baringa estimated that wind generation saved consumers across the island of Ireland more than €1.4 billion in avoided gas and carbon costs through the production of 13.8 TWh of electricity. These findings demonstrate that renewable energy development delivers significant benefits extending beyond climate action, including enhanced energy security, lower system costs, greater price stability, and increased resilience in the face of international geopolitical uncertainty.

Ireland maintains strategic fuel reserves of 90 days of net oil import primarily through the state body National Oil Reserves Agency (NORA), which are designed strictly for emergency use—

⁵⁷ [Generation Energy Sources Electricity Supply by Source 2025 - Central Statistics Office](#)



such as major global supply disruptions or geopolitical crises as being experienced at the moment in Eastern Europe and the Middle East. However, Ireland does not maintain strategic reserves of natural gas, making it very exposed and vulnerable in that area, as most gas is imported via pipelines from the UK.

The Middle East geopolitical crisis is escalating daily and reserves are not sustainable in the long-term. This situation reinforces the strategic importance of energy independence for Ireland and accelerating the diversification of energy sources and accelerating the transition to renewable energy for greater long-term security of energy supply.

2.2.57 Landscape Suitability and Landscape Policy

A number of submissions state that the Dough Mountain Area is identified within the Leitrim County Development Plan 2023-2029 (CDP) as an Area of High Visual Amenity (AHVA) and contend that the proposed Lissinagroagh Wind Farm represents an inappropriate form of development at this location and is contrary to CDP policies relating to landscape and natural heritage. However, as set out in the Planning Statement and Environmental Impact Assessment Report (EIAR), the proposed development has been designed and assessed in accordance with the relevant provisions of the CDP. In respect of NH POL 3 (Natural Heritage Areas), the EIAR identifies all Natural Heritage Areas (NHAs) and proposed NHAs (pNHAs) within the Zone of Influence and undertakes a comprehensive assessment of potential source-pathway-receptor linkages, including Dough/Thur Mountain NHA and other pNHAs connected through ecological or hydrological pathways. The assessment demonstrates that the mitigation hierarchy has been applied throughout the design process, with avoidance measures prioritised, impacts minimised where possible, and targeted mitigation and enhancement measures incorporated to ensure that no significant residual effects arise on the integrity or conservation value of designated sites. Furthermore, habitat protection, restoration and enhancement measures, including the protection of hedgerows, treelines, riparian corridors and areas of blanket bog and wet heath, contribute positively to ecological connectivity and support the policy objective of strengthening linkages between designated and non-designated sites of ecological importance. The EIAR concludes that the proposed development will not adversely affect any designated or proposed NHA and is therefore consistent with NH POL 3.

The EIAR also acknowledges the recognised scenic and visual value of the receiving landscape and addresses these sensitivities through detailed landscape and visual assessment. The Planning Statement demonstrates compliance with LCA POL 1 by locating the proposed wind farm within a robust upland working landscape characterised by commercial forestry and existing wind energy infrastructure, thereby avoiding the most sensitive and highest-value landscape components. The Landscape and Visual Impact Assessment (LVIA) confirms that the proposed development will not adversely affect highly sensitive moorland plateau skylines or Areas of Outstanding Natural Beauty and that all predicted landscape effects are assessed as not significant following the implementation of design-led mitigation measures, including the reduction in turbine numbers, refinement of turbine locations and spacing, and the provision of substantial setbacks from sensitive receptors. In accordance with LCA POL 2, the layout, scale and design of the development have been informed by a detailed landscape and visual assessment to ensure that significant visual and scenic effects are avoided or minimised. The proposed development has also been designed with due regard to LCA POL 3 (Landscape

Sensitivity)), which seeks to preserve landscape character and uniqueness through appropriate siting and design. Compliance with LCA POL 5 (Visual Impact Assessments) is demonstrated through the submission of a comprehensive LVIA prepared by suitably qualified professionals, while LCA OBJ 2 is addressed through the findings of Chapter 13 of the EIAR, which demonstrates that the receiving landscape has the capacity to absorb the proposed development having regard to landscape value, character, sensitivity and capacity for change. In relation to LD POL 3 (Areas of High Visual Amenity), the assessment demonstrates that a high standard of site selection, layout and design has been achieved and that the development does not result in significant residual impacts on the receiving environment. Similarly, compliance with LD OBJ 4 is achieved through the careful siting and design of the development, ensuring that Areas of Outstanding Natural Beauty and Areas of High Visual Amenity are protected from inappropriate effects.

It is also relevant to consider the Renewable Energy Strategy (RES) contained in Appendix X of the CDP. While the RES predates more recent national renewable energy policy and capacity targets and must therefore be considered in its proper policy context, it nonetheless provides important strategic guidance regarding the suitability of lands within the County for wind energy development. The proposed development is located predominantly within an area identified as an "Available Area" for wind energy development in Figure 6.3 of the RES, demonstrating that the planning authority identified this locality as having potential to accommodate wind energy development, subject to detailed environmental assessment and appropriate design. Figure 6.4 further indicates that the area is subject to a comparatively lower level of overall constraint than a number of other Available Areas within the County. Table 7-1 of the RES also identified a target of delivering approximately 83 MW of additional wind energy capacity within the County, illustrating that the CDP envisaged the delivery of significant wind energy development in suitable locations. Importantly, Appendix X Part B, Section 3.1.1 of the Landscape and Visual Capacity Study, relating to Landscape Character Area 4 (Arroo and Mountain Outliers), acknowledges the overall scenic quality and sensitivity of the landscape but specifically concludes that "some limited moorland areas in the vicinity of Dough Mountain and Saddle Hill may be considered subject to detailed design, having regard for landscape and visual constraints including potential cumulative effects with other wind turbines." This is directly relevant to the proposed development and demonstrates that the RES expressly contemplated the potential for wind energy development in the Dough Mountain area, subject to the type of detailed design, assessment and mitigation process undertaken through the EIAR and LVIA.

Accordingly, while Dough is identified as an Area of High Visual Amenity, such a designation does not preclude renewable energy development. Rather, it requires that potential impacts are appropriately identified, assessed and mitigated through the planning and design process. The proposed development has undergone a rigorous design evolution process informed by environmental, landscape and visual constraints, with the turbine layout, associated infrastructure and mitigation measures refined in response to the findings of the EIAR. The assessment concludes that the landscape and visual effects of the proposed development, including those affecting areas of recognised visual amenity, have been comprehensively evaluated and that the development is consistent with the relevant landscape and natural heritage policies and objectives of the Leitrim County Development Plan 2023-2029. When the CDP is read as a whole, including the Renewable Energy Strategy, it is evident that the Dough



Mountain area was recognised as having potential to accommodate wind energy development provided that environmental, landscape and visual sensitivities were appropriately assessed and addressed. Accordingly, the proposed development cannot be considered an inappropriate form of development within the AHVA designation.

2.2.58 Site Notice

A submission from Padraic McGowan states that the newspaper planning notice published in the Leitrim Observer failed to specify the turbine generator manufacturer, model and output capacity and that this omission prevented members of the public from adequately assessing potential noise effects and associated mitigation requirements. However, the statutory requirements for planning notices are prescribed by the relevant planning legislation and do not require the inclusion of detailed turbine manufacturer or model information. The purpose of the planning notice is to provide a clear description of the nature and extent of the proposed development and to direct interested parties to the planning application documentation where detailed project information is available.

Details of the proposed development, including turbine dimensions, generating capacity and the environmental effects arising from the development, are comprehensively described within the planning application documentation and the Environmental Impact Assessment Report (EIAR), all of which were made available for public inspection during the statutory consultation period. The assessment of noise effects has been undertaken in accordance with recognised national and international guidance using a robust worst-case assessment methodology.

The EIAR includes a detailed Noise and Vibration Assessment which identifies, predicts and evaluates potential construction, operational and decommissioning noise effects at nearby receptors and assesses compliance with the applicable noise limits and standards. Consequently, the public was provided with sufficient information to understand and assess the potential noise implications of the proposed development and to make informed submissions on the application.

Accordingly, the planning notice was prepared in accordance with the statutory requirements, and the absence of turbine manufacturer or model details from the notice does not invalidate the assessment of noise effects nor prejudice public participation in the planning process, as all relevant environmental information was available within the planning application and EIAR documentation.

2.2.59 Consenting Process

A submission from Padraic McGowan states that the application should have been determined by the local authority rather than An Coimisiún Pleanála (ACP). Consent has been sought from ACP because the proposed development falls within the classes of development prescribed under planning legislation for Strategic Infrastructure Development (SID). The determination of the appropriate consenting authority is therefore a matter of statutory requirement and not one of applicant choice.

During the pre-application consultation process, ACP considered the nature, scale and characteristics of the proposed development and, pursuant to the provisions of the Planning and Development Act 2000 (as amended), including sections 37A to 37G relating to Strategic

Infrastructure Development, determined that the project constitutes SID. As a consequence, the application is required by law to be made directly to ACP for determination. Accordingly, the submission of the application to ACP reflects compliance with the statutory planning process and the formal determination made during pre-application consultations, rather than any discretionary decision on the part of the applicant.

2.2.60 Case C24/19

In response to a submission from Adrienne Diamond, we note that the CJEU judgment in Case C-24/19 is not applicable to the determination of the planning application for the proposed development, particularly in the context of the 2006 Wind Energy Development Guidelines ('the 2006 WEDGs'), to which the submission appears to be making reference to. Case C-24/19 concerns Flemish instruments (an order and a circular) that imposed a binding framework of conditions on wind turbine development and were held to be "plans and programmes" requiring Strategic Environmental Assessment ('SEA') under Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment ('the SEA Directive'). With respect, the applicant disagrees with the application by the objector of case C-24/19 for the following reasons:

- The 2006 WEDGs have not shown to be relevant to the Case C-24/19

The submission has not put forward any rationale regarding why Case C-24/19 is relevant and why the 2006 WEDGs are defective under the SEA Directive. Case C-24/19 concerns Flemish legislative instruments, which the CJEU held required an SEA. Neither the CJEU nor the Irish Courts have determined that an SEA was required for the 2006 WEDGs, including whether it "sets the framework" for future development consent projects. Furthermore, it has not been held that the interaction between development consents and the Flemish legislative instruments is the same as the interaction between the 2006 WEDGs and development consents. Indeed, there has been no challenge of the 2006 WEDGs requiring SEA to date before any Irish Court nor of any planning permission that had regard to the 2006 WEDGs. Any such approach would be a collateral attack to the 2006 WEDGs.

- SEA not relevant to an individual planning application

The High Court in *Martin v An Bord Pleanála* [2018] IEHC 4 at para.8 confirmed that matters relating to SEA have no relevance to an individual planning application and SEA does not take place in the context of a specific development.

The High Court in *Ballyboden Tidy Towns Group v An Bord Pleanála & Ardstone* [2023] IEHC 722 at para. 204 found that a planning permission the subject of challenge does not satisfy the condition of Article 3(2)(a) that it "set the framework for future development consent of projects". Rather it is itself a development consent.

- 2006 WEDGs are not binding on An Coimisiún Pleanála ('ACP')

Without prejudice to the above submissions, ACP are not compelled to comply with the 2006 WEDGs when making a decision. Indeed, they are required to "have regard to" these. Under Section 28 of the Irish Planning and Development Act 2000, planning authorities and ACP are legally required to "have regard to" ministerial guidelines when performing their planning functions. The meaning of the expression "have regard to" was recently considered in Cork



County Council v Minister for Local Government, Planning and others [2021] IEHC 683 where it was found that once there is evidence that a decision-maker has considered something, this is enough to satisfy the “have regard to” requirement. As noted above, the case of Case C-24/19 and the SEA Directive are not relevant to determining this planning application.

However, without prejudice to the above submissions, if ACP are of the view that the 2006 WEDGs required an SEA (which, as noted above, we submit it is not part of determining this planning application), ACP can confirm why it does not intend to follow the 2006 WEDGs in reaching its decision to grant planning consent. If ACP decides to follow this approach (which we submit it is not required to do so), ACP can still take into account that the proposed development complied with best practice in its approach to proper planning and sustainable development.

2.2.61 Previous Refusal of Application Ref. 09/260

Several submissions refer to the refusal of a previous wind energy application (LCC Ref. 09/260, ACP Ref. PL 12.234741) and suggest that this establishes a precedent for the refusal of the proposed development.

The previous application relates to a different development on a separate site, with no overlap in location with the proposed Lissinagroagh Wind Farm. In addition, the planning policy context has changed significantly since the earlier application was determined in 2010. At that time, Ireland did not have the current statutory and policy framework supporting the transition to a low-carbon economy and the expansion of renewable energy generation. Since then, the Climate Action and Low Carbon Development (Amendment) Act 2021 has established legally binding national climate objectives, including the transition to a climate-neutral economy by 2050 and substantial emissions reductions by 2030. Public bodies are required to perform their functions in a manner consistent with these objectives.

The refusal of planning reference 09/260 was based on two principal concerns. Firstly, An Bord Pleanála concluded that the proposed development, which was located within the Dough/Thur Mountains proposed Natural Heritage Area (pNHA), posed an unacceptable risk to areas of relatively intact upland blanket bog, including Annex I Blanket Bog habitat and Priority Active Blanket Bog habitat. Concerns were also raised regarding potential surface water pollution and slope instability associated with the peatland environment. These circumstances do not arise in the case of the proposed Lissinagroagh Wind Farm. The proposed development is not located within the Dough/Thur Mountains pNHA and there is no overlap between the two sites. The project design and mitigation measures are informed by the experiences and lessons learned from development in peatland environments and reflect the latest best practices, methodologies and mitigation measures. The current application has been informed by detailed ecological, peat, hydrological and geotechnical assessments which have evaluated site-specific environmental conditions and informed the design of the proposed development. Chapter 7 of the applications EIAIR concludes that there is a low probability of residual effects on the soil, and the associated site specific PRSA concluded that:

‘Following application of mitigation measures (planning stage micro siting of infrastructure to minimise the risk, site-specific temporary and permanent works designs for areas of deeper peat and steeper slopes, and common-place mitigation measures such as careful detailed design and construction

supervision for the other areas of the site), the findings of the planning stage PSRA indicate a “low” to “negligible” hazard ranking for instability related to the requirement for excavations on the site. ‘

The second reason for refusal related to landscape and visual impact. The Board considered that the proposed development would constitute an unacceptably obtrusive feature on Dough Mountain, an area identified as having high visual amenity, due to its location close to the ridgeline and its visibility in panoramic views. While landscape and visual impact are relevant considerations, such effects are inherently site-specific and must be assessed having regard to the characteristics of the particular landscape, the nature of the receiving environment and the design of the proposed development. Consequently, the findings reached in relation to a different site cannot be directly applied to the proposed development. With regard to the proposed Lissinagroagh Windfarm, Chapter 13 of the associated EIAR concludes that the cumulative effects arising from the proposed project are assessed as not significant. Additionally, the chapter concludes that:

‘The proposed project is in compliance with the visual policies and objectives (policies LD POL 1 – LD POL 6 and objectives LD OBJ 1 and LD OBJ 4), set out in the current Leitrim CDP or CDPs within the surrounding study area and is predominately located within an ‘Available Area’ wind energy classification within the current Leitrim CDP.

Overall, the proposed project represents a considered and appropriate intensification of established wind energy infrastructure in this landscape context and is not considered to give rise to significant adverse landscape or visual effects either individually or cumulatively.’

As discussed in the applications planning statement the national planning framework has evolved considerably in recent years. The National Planning Framework and its 2025 revision recognise renewable energy as critical national infrastructure and provide a strategic basis for increasing renewable electricity generation capacity in support of climate and energy security objectives. At a regional level, the Northern and Western Regional Spatial and Economic Strategy (RSES) 2020-2032 explicitly supports the development of renewable energy infrastructure and the transition to a low-carbon region in accordance with national policy. At local level, the Leitrim County Development Plan 2023-2029 includes a Renewable Energy Strategy and a policy framework intended to facilitate renewable energy development in appropriate locations, subject to environmental and planning safeguards. It would therefore be inappropriate to attach significant weight to a decision made under a materially different policy and legislative framework. Accordingly, the policy framework applicable to the assessment of the proposed Lissinagroagh Wind Farm is materially different from that which applied to planning reference 09/260 in 2010, and the earlier refusal cannot be regarded as establishing a precedent for the determination of the current proposal.

Accordingly, the refusal of planning reference 09/260 does not establish a precedent for the refusal of the proposed development. The proposed Lissinagroagh Wind Farm should be assessed on its own merits, having regard to its specific characteristics, environmental context and the current planning policy framework.

2.2.62 Commission for Regulation of Utilities' (CRU) Large Energy Users Connection Policy

A submission by Cllr Eddie Mitchell raises concerns regarding the Commission for Regulation of Utilities' (CRU) Large Energy Users Connection Policy, potential growth in electricity demand associated with data centres, and Ireland's obligations under the Climate Action and Low Carbon Development Act 2015 and the Energy Efficiency Directive. The submission contends that increasing electricity demand may undermine the achievement of national energy efficiency and climate targets.

The Applicant notes that the issues raised relate primarily to national energy policy, electricity demand forecasting and the regulation of large electricity consumers rather than to the planning merits of the proposed development. The proposed wind farm is a renewable electricity generation project and does not itself increase national electricity demand. Rather, it contributes additional renewable generation capacity to the electricity system, thereby supporting the decarbonisation of existing and future electricity consumption.

While the submission argues that growth in electricity demand may create challenges in meeting national energy and climate objectives, this does not diminish the need for additional renewable energy infrastructure. On the contrary, any increase in electricity demand arising from economic growth, electrification of transport and heating, population growth, or the connection of large energy users reinforces the need for further renewable energy generation if Ireland is to reduce reliance on fossil fuel generation and achieve its climate objectives. The question of managing electricity demand and regulating large energy users is a matter for Government, the CRU and other relevant authorities through the implementation of national energy and climate policy.

The proposed development must therefore be assessed on its own planning and environmental merits and in the context of the current statutory and policy framework. National climate, energy and planning policy continues to support the delivery of renewable electricity infrastructure, including onshore wind energy, as a key component of Ireland's transition to a low-carbon economy and secure energy system. The proposed development would make a meaningful contribution towards increasing the supply of indigenous renewable electricity and reducing dependence on fossil fuel generation, irrespective of future electricity demand scenarios.

Accordingly, the concerns raised regarding national electricity demand projections, data centre growth and the CRU's Large Energy Users Connection Policy do not provide evidence that the proposed development is inappropriate in principle or that it conflicts with Ireland's climate and energy objectives. Rather, the provision of additional renewable generation capacity assists in meeting those objectives and supports the decarbonisation of Ireland's electricity sector.

2.2.63 Perceived effects on the prevailing landscape character and perceived 'industrialisation' of the landscape

A recurring theme within the submissions is that the receiving landscape is pristine, highly naturalistic or otherwise particularly susceptible to wind energy development, and that the proposed project would transform an undeveloped rural landscape into an industrial landscape.

The submitted LVIA recognises the scenic qualities and sensitivity of the wider North Leitrim landscape and does not characterise the study area as uniformly robust or of limited landscape value. Indeed, the assessment identifies considerable variation in landscape sensitivity across the 20 km study area, including highly sensitive landscapes associated with the Dartry Mountains, Areas of Outstanding Natural Beauty, distinctive mountain landforms, loughs, valleys and other landscapes displaying strong naturalistic and recreational qualities.

The distinction made in the LVIA is between these wider, highly sensitive landscapes and the specific landscape context within which the proposed project would be located. The site and central study area encompass the elevated lands of Dough Mountain and Saddle Hill. These lands retain areas of moorland, grassland and other naturalistic upland characteristics, and the LVIA expressly acknowledges that the mountain skylines, scenic quality, visual openness and wilderness-like characteristics of the wider LCA are susceptible to change. However, the immediate receiving landscape is not an untouched or pristine upland environment. It comprises a mixture of commercial conifer forestry, transitional pastoral farmland and existing wind energy infrastructure, including the operational Faughary Wind Farm immediately adjoining the proposed project. The assessment of Medium landscape sensitivity for the site and central study area therefore does not derive from a conclusion that Dough Mountain or the wider Arroo Mountain landscape is of limited value. Rather, it reflects a professional judgement balancing its recognised scenic and perceptual attributes against the existing character, land uses and degree of modification of the particular landscape in which the turbines would occur. The LVIA consequently identifies the site and central study area as displaying some susceptible landscape qualities, whilst also being influenced by productive and modified land uses, including forestry, agriculture and existing wind energy infrastructure. It should be noted that the Leitrim County Council submission agrees with this 'Medium' landscape sensitivity judgement for the central study area and accepts the wider study area classification as ranging between Medium and High sensitivity, with some areas of High and Very High sensitivity.

It is important to note the use of the terms 'unspoilt' and 'pristine' throughout the various submissions relating to the LVIA. These terms are inaccurate descriptions of the receiving landscape. In fact, the landscape of the study area is one that is notably modified. Views of the agricultural landscape are generally pleasant in terms of its rolling pastoral aesthetic and 'green', settled working character. Furthermore, the network of hedgerows and vegetation that occurs throughout it contributes to a sense of naturalness and, in combination with its undulating topography, generates a high degree of containment in many locations. However, whilst the agricultural context forms the primary landscape and visual experience, the site and its immediate surroundings have a working, elevated character, which is evident through the extensive areas of commercial conifer forestry plantation that cloak the surrounding rolling, elevated terrain. Furthermore, the established Faughary Wind Farm introduces an additional anthropogenic influence on the most elevated parts of the site and its surroundings.

The assessment also clearly identifies some notable effects generated by the proposed project, with operational-phase landscape effects at the site and within its immediate surroundings classified as Substantial-moderate, whilst some localised visual receptors within the immediate surroundings of the site are also assessed as experiencing Substantial-moderate residual effects. These effects represent a notable degree of change and, whilst classified as Not

Significant, represent some of the higher-ranging adverse effects identified within the assessment. It is acknowledged that the proposed project will result in a notable intensification of wind energy development and that the turbines will become prominent features from some locations. However, the submitted LVIA does not identify this change as resulting in a fundamental alteration of the character or function of the central or wider landscape. Rather, the highest landscape and visual effects are localised, with effects reducing as the turbines become a progressively smaller component of the wider landscape.

2.2.64 Perceived conflicts with landscape and visual designations and landscape policy and perceived limited capacity for the landscape to accommodate the proposed project

A second theme noted throughout the submissions concerns the location of turbines within the Dough Mountain Area of High Visual Amenity (AHVA), the sensitivity attributed to LCA 4 – Arroo Mountain and Outliers, and the consistency of the proposed project with the landscape policies and objectives of the Leitrim County Development Plan.

The LVIA explicitly identifies and considers these designations. Indeed, a full summary of all relevant landscape and visual policies and designations is provided in Section 13.3.2 of the submitted LVIA. The assessment recognises that the proposed project and much of the central study area are situated within LCA 4 and that the County Development Plan identifies the moorland plateaux as particularly sensitive to change due to their distinctive mountain skylines, scenic quality, wilderness-like character and visual openness. However, the assessment also differentiates the AHVA encompassing the site from the more sensitive AONB landscapes occurring within the northwestern part of the LCA.

Of particular relevance is the fact that landscape and visual considerations informed the evolution of the turbine layout. Indeed, the County Development Plan identifies the potential for wind energy development within AHVA designations (within which the site is situated), subject to a high standard of site selection. In this regard, robust early-stage studies were undertaken in relation to landscape and visual considerations to evaluate the capacity of the site to accommodate a wind farm development in terms of the overall scale and extent of the potential wind farm and the scale of the proposed turbines. This process resulted in a substantial reduction in the scale of the proposed array, from an earlier layout comprising up to 20 turbines to the submitted 14-turbine layout. These revisions reduced visual clutter, improved turbine spacing and silhouette characteristics, and reduced visual exposure towards the northern part of the study area.

Particular consideration was also afforded to designated scenic views within the surrounding landscape, most notably designated scenic views V16 and V17 and the elevated landscape around O'Donnell's Rock (classified as an AONB) with overall significance from these locations assessed to be Moderate-slight and Slight, respectively. The LVIA acknowledges that the proposed project would be clearly visible from parts of this landscape. It does not rely upon an absence of visibility as justification for the development. Instead, the design response sought to reduce the spatial extent and intensity of the turbine array within these views.

The proposed project will undoubtedly increase the influence of wind energy development across Dough Mountain and Saddle Hill. That change is acknowledged in the LVIA. The assessment nevertheless concludes that this increased influence does not result in the loss of the defining landscape characteristics of the wider LCA or AHVA, particularly when considered against the broad scale of the receiving upland landform, the contained geographical extent of the highest effects and the existing pattern of managed upland land uses. Furthermore, the proposed project has been designed and sited to limit its effects on surrounding scenic designations, with the observation provided by Leitrim County Council stating that “*the proposed wind farm development will not therefore adversely impact upon any view or prospect and is therefore compliant with LD POL 1*”.

2.2.65 The prominence of the proposed turbines, their siting and the potential to generate skyline visual effects

The scale of the proposed turbines, at up to 185 m tip height, and their potential to become prominent features of the Dough Mountain skyline represent some of the most frequently raised concerns throughout the submitted observations. Common submissions state that the turbines would be “*larger and more dominant than previous ones*”, would “*dominate*” the landscape and would be “*out of scale*” within the receiving landscape context. It is accepted that turbines of this scale cannot be screened from all surrounding receptors and that, where clearly visible at relatively close distances, they will become prominent elements of the view, with the turbines presenting with a dominant visual presence at some of the nearest visual receptors. However, it should be noted that a turbine can have a dominant visual presence without presenting in an overbearing manner. Indeed, there is little sense that the turbines would present as strongly overbearing from any of the surrounding receptors, most notably because they tend to be well set back from the nearest residential receptors, with the turbine array fully compliant with, and in many cases well exceeding, the visual amenity offsets set out in the Draft Revised WEDGs (2019).

The LVIA has assessed the maximum 185 m turbine scenario, and the photomontages use a combination of a 149 m rotor diameter, 110.5 m hub height and 185 m tip height. This was deliberately selected as the base case because it provides the greatest potential for visibility of both the hub and turbine tip. Comparative assessment of the alternative turbine envelopes found that the relatively limited differences between the 180–185 m options would not materially alter the resulting landscape and visual effects. Whilst large-scale features, turbines with a tip height of 185 m are not uncommon within the Irish context, with some of the largest consented turbines in Ireland rising to a height of approximately 200 m above existing ground level. Indeed, in this instance, the large scale of the turbines can be readily assimilated within this broad landscape context due to the broad and undulating upland landform and the scale of the underlying land uses, such as the extensive areas of commercial conifer forestry. This is demonstrated by the assessed effects at local community viewpoints. Sixteen representative viewpoints were selected within approximately 5 km of the site. Of these, only VP21 was assessed as experiencing a Substantial-moderate visual effect, with the majority of local viewpoints experiencing Moderate or lower effects.

At VP21, the LVIA specifically acknowledges that turbines T13 and T14 would occupy a slightly elevated position and that their apparent scale would be accentuated by the uphill viewing angle. The assessment therefore assigns a High-medium magnitude of change and a Substantial-moderate / Negative / Long-term effect. This demonstrates that the methodology does not seek to understate locally prominent effects where these occur. However, it is important to note that even these higher-ranging effects are highly localised.

Similarly, turbine T03 is recognised as one of the more visually prominent turbines in views from the north. At VP08, turbine T03 would be revealed against the skyline and would form the most prominent element of the proposed array. The LVIA nevertheless assesses the residual visual effect at this location as Moderate. Indeed, whilst turbine T03 presents prominently here, the overall scale and extent of the wider Proposed project are substantially diminished by the intervening terrain.

Furthermore, the proposed turbine scale also reflects established industry trends, whereby taller turbines facilitate greater efficiency, reduced turbine numbers and lower overall landscape clutter. This balancing of turbine size and turbine quantity is recognised in independent research commissioned by Fáilte Ireland (2007, updated 2012), which found that:

“...if both produced the same amount of electricity, tourists preferred wind farms containing a small group of large turbines (55%) to a large group of smaller turbines (18%).”

Overall, whilst the proposed turbines will be perceived as large scale built structure, they can be well accommodated in this broad undulating landscape and respond well to the scale of the upland landscape they are viewed within. Furthermore, as set out in the submitted LVIA; “in terms of residual visual effects, for a project of this scale and type, it is not commonplace for only one representative viewpoint to be classified as experiencing a Substantial-moderate level of effect. This outcome is largely attributable to the design-led layout of the proposed array, which incorporates substantial setbacks from the nearest residential receptors. It also reflects the scale and extent of the surrounding landforms and land uses, which aid in visually assimilating the proposed turbines without any significant conflicts of scale. Whilst some very localised, higher-ranging residual visual effects would occur within the immediate and central study area, it is assessed that the proposed project would generate residual visual effects deemed Not Significant”.

2.2.66 Accuracy of the photomontages and representative nature of the viewpoint locations

Several submissions call the accuracy of the photomontages into question, highlighting that the photomontages do not represent “a true reflection on the severe visual impacts” generated by the proposed project. In terms of the accuracy, Macro Works produce photomontages in line with the current Nature Scot Guidelines and guidance set by the British Landscape Institute 2011 – Advice Note 01/11. Viewpoints are selected (in consultation with the planning authority) and high-quality photography in RAW format is captured using a digital Single-Lens Reflex (SLR) camera with a fixed 50 mm lens on a Monfrotto panoramic head and leveller. Viewpoint locations are then spatially captured using a survey grade Global Positioning System (GPS) unit to within 10cm of accuracy. High resolution 360-degree panoramas are generated from the captured photography. The scheme is then modelled using a Digital Terrain Model (created with

a combination of LiDAR and OS Terrain Data) and real world reference points. It is rendered in Autodesk 3DS Max 2023 with identical image characteristics to that of the camera used for the baseline photography allowing the render and the photography to be merged with a high degree of accuracy.

A number of submissions also question the number, location and representativeness of the selected viewpoints and request photomontages from individual private properties. The LVIA viewpoint assessment is based on the established principle that viewpoints are representative locations rather than views from every possible location from which a development may be visible. Their purpose is to provide a representative sample of the range of receptor types, viewing directions, distances, sensitivities and landscape contexts from which the proposed project may be experienced.

In terms of the selection of the viewpoint locations for assessment, this is guided by the GLVIA3 (Guidelines for Landscape and Visual Impact Assessment). The viewpoint selection is undertaken utilising the ZTV (Zone of Theoretical Visibility) mapping, which provides the basis for selection of key viewpoints from which to study the visual and landscape impact of the proposed project in detail. It is not practical to include every single location that provides a view of the proposed project as this would result in an unwieldy report and make it difficult to draw out the key impacts arising. Instead, the assessors endeavoured to select a variety of location types that would provide views of the proposed project from different distances, different angles and different contexts. The locations selected are significant because they comprise, for example, centres of population and important communication routes whether due to traffic volume or their scenic value. It should also be noted that the representative viewpoints for assessment were shared with the planning authority. Each representative VP is chosen to represent visual receptor groups from the following receptor types;

- Key Views - from features of international or national importance;
- Amenity Views - from important heritage or amenity locations;
- Designated Scenic Routes and Views;
- Local Community Views;
- Centres of Population; and
- Major Routes.

It is important to note that some VPs may be applicable to several receptor categories, in which case, they will be assessed under the group that best reflects that location's particular sensitivities. Whilst every effort is made to select viewpoints with the clearest and most unimpeded view of the proposed project, in some instances, only a partial view of the proposed project will be visible from the nearest publicly accessible location that was selected to represent the visual receptor. In instances where the proposed project is heavily screened from a specific receptor, a photomontage has been included to highlight the degree of intervening screening afforded between the visual receptor and the proposed turbines. In circumstances where a branch or cluster of vegetation partially screens a turbine or section of the development, the wireframe view is utilised to understand the potential visual impacts and perceived scale of the development from that receptor.

Finally, it is important to note that Macro Works always attempts to use the most open views relative to the receptor being represented, whether these are views from a town or a designated scenic route. It serves no purpose to assess visual impacts from a location, which can be readily proven not to be representative of worst-case visual exposure from a particular receptor, as this only undermines the assessment.

2.2.67 Perceived cumulative landscape and visual effects

The submissions also note the potential cumulative effects of the proposed project in combination with existing and proposed wind energy developments, and the potential for repeated or sequential views. The cumulative assessment takes account of six operational wind farms, two consented wind farms and one wind farm within the planning system across the 20 km study area. The nearest and most relevant cumulative development is the operational three-turbine Faughary Wind Farm, approximately 544 m from the proposed array. Other wind farms are considerably more distant, with the next nearest identified development approximately 8.5 km away.

The LVIA acknowledges that the proposed project would result in a clear intensification of wind energy development within its immediate landscape context. In particular, its relationship with Faughary Wind Farm would reinforce the presence of wind energy development across the elevated lands of Saddle Hill and Dough Mountain, with wind farm development becoming one of the more prominent individual land uses, in combination with the extensive areas of forestry, across these elevated lands. Indeed, the most notable cumulative visual effects will occur in relation to the operational Faughary turbines, with limited combined views of the proposed turbines and other operational, consented or in-planning turbines. Where combined visibility of the proposed turbines is afforded with other developments (not including the existing Faughary turbines), the proposed turbines will be perceived as a distinctly separate wind farm development, well visually offset from these other cumulative developments. The limited potential for cumulative effects is also reinforced in the submission provided by Leitrim County Council, which states: *“the Planning Authority is satisfied that the proposed project would not result in a significant cumulative landscape impact.”*

Overall, the principal cumulative effects relate to the proposed project's relationship with the existing Faughary turbines, which are notably smaller than the proposed turbines. Notwithstanding the contrasting scales of the proposed and existing turbines, the Proposed project generates little, if any, strong sense of scale conflict. This is principally associated with the fact that the Faughary turbines tend to be located at more elevated positions than a large number of the proposed turbines. Whilst some of the proposed turbines are located at similar or higher elevations, the existing turbines are often likely to be perceived as part of the wider wind energy development rather than as a separate and contrasting wind farm development that generates visual tension with the proposed turbines. This is evident in representative viewpoints VP16 and VP20, where the proposed and existing turbines are viewed clearly in combination without undue adverse cumulative visual effects.

Overall, the cumulative assessment identifies a Medium magnitude cumulative effect, representing a clear but geographically contained intensification of wind energy development.

The strongest cumulative relationship occurs locally with Faughary Wind Farm, while the degree of cumulative interaction reduces appreciably across the wider study area.

2.2.68 Concerns regarding installation of the proposed project on a peat bog

In accordance with Chapter 7- Land, Soils and Geology, the site of the proposed project is degraded peatland which has “*previously been drained for forestry, agricultural activity and turbary use*”. Further, the Spoil and Peat Management Plan states “*The peaty soil and peat on site is predominantly drained or modified due to historical turf cutting, farming activity and afforestation*”.

Renou- Wilson *et al.* (2018) found areas of degraded bogs, will act as sources of GHG emissions until they are either rewetted/revegetated, the peat is removed, or all the remaining peat has oxidised. Therefore, the peat in situ at the Proposed project site is considered a source of CO₂e, not a carbon sink.

Renou-Wilson *et al.* (2018) studied a range of blanket and cutover raised bogs in Ireland in their assessment. Site-specific rates for CO₂ and CH₄ emissions were calculated based on studies at 4 no. Irish bogs. The study, over five years, found that the drained bare peat sites were a net annual CO₂ source and resulted in an average emission factor of 1.2 t CO₂-C ha⁻¹ yr⁻¹. In terms of CH₄ and N₂O, the net ecosystem exchange (NEE) (net CO₂ flux between land-atmosphere) was approximately neutral. The site consists of 23.3 ha of degraded peatland, which, using Renou- Wilson *et al.* (2018) emissions factor, equates to approximately 27 tCO₂e emitted per year. In lieu of bog rehabilitation plans, this is considered to be the current status of the peat bog in the absence of the proposed project.

As set out in Chapter 7- Land, Soils and Geology, “*Calculated volumes of peaty podzol soils and peat to be excavated are 101,911 m³. There is no loss of peat or subsoil, as it will all be permanently relocated within the proposed wind farm site to the borrow pits.*” Therefore, as the peat is already in a degraded state and not acting as a carbon sink, disturbing it and moving it within the site boundary, will have a negligible impact on climate.

The only climatic impact associated with the peat bog is with regards to the excavation activity itself, which equates to approximately 10 tCO₂e.

In accordance with ISEP 2026 GHG Guidance, activities that are expected to contribute less than <1% of total lifetime GHG emissions (up to a cumulative total of 5%) can be excluded from assessment. Due to the proposed project’s anticipated operational GHG emissions savings across its 35-year lifespan (1,802,851 tCO₂e up to a maximum of 2,364,278 tCO₂e) the excavation of peat can be scoped out as it equates to less than 1% of the total proposed project lifetime GHG emission savings.

2.2.69 Shadow Flicker Assessment

Several submissions raised concern that the shadow flicker assessment does not model and adequately reflect lived experience and that the reliance on predicted compliance rather than real-world impacts is insufficient.

As described in EIAR Section 10.2.3 the shadow flicker analysis has been undertaken using WindPRO: Shadow – Version 3.6.377 (by EMD International) which is one of the leading

industry software packages for carrying out a shadow flicker simulation. The model incorporates wind turbine configuration, terrain mapping, sun path throughout the year at the development latitude and defined receptors.

Furthermore, an updated model will be run at the pre-construction phase once the detailed specifications of the chosen turbine model are confirmed, on account that design flexibility has been sought for the proposed Lissinagroagh Wind Farm. That will be used for the basis of the turbine control programme used should the wind farm become operational.

Moreover, in order to ensure the full extent of the moving shadow which would be created by the proposed turbine range considered in the assessment, the following representative scenario was modelled:

- Hub height of 103.5 m, tip height of 185 m and rotor diameter of 163 m. The turbine model used for the assessment is the Nordex N163 with 185 m tip height (i.e. largest rotor diameter at the tallest tip height).

As illustrated in Drawing 10955-2032 - Turbine Details, the rotor area of the modelled turbine contains the rotor areas of all other potential combinations of smaller rotor diameters and various hub heights and there is no possibility of a greater shadow flicker effect from any other combination within the turbine parameters proposed. Furthermore, even if the effects from a different combination are lower, they are not lower to such a degree that they would change the conclusion on likely significant effects in this chapter, based on the relatively narrow range of the turbine dimensions

In this regard, the potential for shadow flicker to occur as a result of all configurations within the turbine range, will be less than that modelled. This is because the overall area of the shadow for all other scenarios is smaller and within the modelled shadow that has been assessed (refer to Drawing 10955-2032).

In relation to the baseline data, Clones, Co. Monaghan data was utilised. Clones, Co. Monaghan is the closest synoptic station to the proposed wind farm. Based on data from Met Éireann, Ireland's average sunshine hours have increased by approximately 4.6% when comparing the 1991-2020 period to the 1961-1990 period⁵. At pre-construction stage, once the detailed specification of the chosen turbine model are confirmed, the shadow flicker model will be updated along with sunshine statistics to consider any change in sunshine probability from the initial assessment to the date of the updated model.

The mitigation measures detailed in Section 10.6 (EIAR Chapter 10) will be put in place at the turbines to ensure that the current adopted 2006 DoEHLG guidelines are complied with at any sensitive receptors within the study area. The same mitigation measures also demonstrate that the proposed project can be operated having due regard to the shadow flicker requirements of the Draft Revised Wind Energy Development Guidelines (2019), i.e. eliminate adverse shadow flicker occurrences (allowing a very short period from when a shutdown (pause) command is sent to the turbine until the turbine blades and rotor reach an idle position) and the Applicant's commitment to zero shadow flicker.

Shadow flicker control units will be installed as standard practice to automatically shut-down individual turbines during periods of predicted shadow flicker to prevent its occurrence at

relevant receptors adjacent to the proposed wind farm. The shadow flicker control units will be added to any required turbines and are not cost prohibitive.

2.2.70 Shadow Flicker Study Area and Identified Receptors

Several submissions raised concerns surrounding the potential shadow flicker impacts on other non-identified sensitive receptors.

The shadow flicker receptors identified for the purpose of this assessment are shown on Figure 10-1 of Section 10.4.3 of the EIAR (Chapter 10). The figure also displays the locations of the proposed turbines as well as the shadow flicker study area which extends to 1.63 km from the proposed turbine locations (i.e. allowing for 10 x rotor diameters of the full range being considered). Within the 1.63 km (from the turbine locations) study area, 84 no. receptors have been identified (83 no. residential dwelling and 1 no. residential planning application). The shadow flicker receptors have been identified from a combination of publicly available mapping, aerial imagery, street-level imagery and Geodirectory address data. Following this, a thorough ground truthing survey was undertaken by the TOBIN Project Team to verify the list of properties. The ground-truthing survey consisted in driving within 3 km of the proposed turbines and confirming the presence of properties listed in the Geodirectory address data and/or add other non-listed buildings. In addition, a search of planning applications within 1.63 km of the proposed turbine locations was carried out to identify proposed developments and consented, but as yet not built, developments. Details of all receptors within the population and human health (Chapter 4) study area (2 km from the planning application boundary) can be found on EIAR Appendices 4-1 (List) and 4-2 (Map). Any new properties arising from local development and future residential planning applications can easily be added to the shadow flicker model and ultimately to the shadow flicker control system to virtually eliminate any shadow flicker adverse effects.

2.2.71 Cumulative Shadow Flicker Assessment

Several submissions raised concern regarding the shadow flicker cumulative impact, noting the existence of other wind farms within the locality.

This is addressed within EIAR Section 10.7 of Chapter 10 (Shadow Flicker). The Applicant is committed to minimising any adverse effects from the proposed project on the local community. The implementation of mitigation measures to screen shadow flicker effects from sensitive receptors and implement wind turbine control measures in accordance with a defined Turbine Shutdown scheme will ensure that any residual shadow flicker effects from the proposed project will be reduced at any shadow flicker receptors to achieve zero shadow flicker as committed by the Applicant. This will be the case irrespective of which turbine dimensions are selected within the turbine range.

The operational Faughary Wind Farm (Leitrim County Council P.04/550 and P.11/207) is located approximately 550 m to the north-west of the proposed wind farm. Given the proximity to the proposed wind farm, cumulative shadow flicker effects from Faughary Wind Farm have been assessed in Section 10.7 of the EIAR. It has been concluded that no additional likely significant effects relating to shadow flicker have been identified. Again, as the Applicant has committed to near-zero shadow flicker, there will be no potential for cumulative impacts once

the turbine shutdown scheme is installed. Any temporary turbine shutdowns required to achieve this outcome are subject to the technical capabilities of modern turbine control systems, which typically involve a controlled and safe slowdown of blade rotation lasting between one and two minutes. This operational measure would have an imperceptible long-term effect.

2.2.72 Shadow Flicker Impacts and Mitigation

A number of concerns regarding shadow flicker related to the general potential impacts there may be on households. The applicant is committed to near-zero" shadow flicker effects from the proposed project on the local community and is committing to ensuring a near-zero shadow flicker at the shadow flicker receptors identified within 1.63 km (ten rotor diameters) of the proposed wind turbine locations. As described in Section 16.5 of the submitted EIAR, these measures include turbine shutdown and screening, the latter of which will only be considered if the property is either naturally screened (by topography, buildings, vegetation, etc.) or where the homeowner is happy to accept such measures. These proposed mitigation measures are proven and widely used in the wind energy industry.

Several concerns were raised surrounding the shadow flicker mitigation measures including 'near-zero' and concerns regarding reliance on automated software.

As described in EIAR Section 16.5.2 it is proposed that a shadow control system will be installed on each of the wind turbines that have the potential to cause shadow flicker for sensitive receptors. The above mentioned shadow control system measures go beyond the minimum required shadow flicker limits as set out in the 2006 Wind Energy Development Guidelines (maximum of 30 minutes per day of 30 hours per year). This reflects the Applicants commitment to minimising potential effects on the local community.

The control system will detect and calculate, in real-time:

- Whether shadow flicker has the potential to affect nearby properties, based on pre-programmed co-ordinates for the properties and turbines outlined in this assessment;
- Wind speed (can affect how fast the proposed turbine will turn and how quickly the flicker will occur); and
- The intensity of the sunlight.

When the sunlight is strong enough to cast a shadow, and the shadow falls on a property or properties, then the proposed turbine will automatically shut down; and will restart when the potential for shadow flicker ceases at the affected properties.

A shadow flicker control unit allows a wind farm's turbines to be programmed and controlled using the wind farm's SCADA control system to change a particular turbine's operating mode during certain conditions or times or even turn the turbine off if necessary. All predicted incidents of shadow flicker can be pre-programmed into the wind farm's control software. The wind farm turbines can be programmed to shut down any particular turbine at any particular time on any given day to ensure that shadow flicker occurrences at properties which are not naturally screened or cannot be screened with measures outlined above. Where such wind turbine control measures are to be utilised, they need only be implemented when the specific combined circumstances occur that are necessary to give rise to the shadow flicker effect in the

first instance. Therefore, if the sun is not shining on a particular day that shadow flicker was predicted to occur at a nearby receptor, there would be no need to shut down the relevant turbines that would have given rise to the shadow flicker at the receptor. Similarly, if the wind speed was below the cut-in speed that caused the turbine rotor to rotate and give rise to a shadow flicker effect at a nearby receptor, there would be no need to shut down the relevant turbines that otherwise would have caused shadow flicker.

The atmospheric variables that determine whether shadow flicker will occur or not, will be continuously monitored at the wind farm site and the data fed into the wind farm's SCADA control system. The strength of direct sunlight is measured by way of photocells, and if the sunlight is of sufficient strength to cast a shadow, the shadow flicker control mechanisms come into effect. Wind speed and direction are measured by anemometers and wind vanes on each turbine and on the wind farm's met mast, and if wind speed and direction is such that a shadow will be cast, the shadow flicker control mechanisms come into effect. The moving blades of the turbine will require a short period of time to cease rotating and as such there may be a very short period (1 – 2 minutes (depending on site specific wind conditions)) during which the blades are slowed to a complete halt.

The Applicant will install a shadow flicker control system at turbines which have the potential to cause shadow flicker on nearby properties. This system will be installed prior to operation of turbines.

If there is sufficient existing screening at a shadow flicker receptor, the Turbine Shutdown Scheme may not be necessary for that receptor. The Applicant will engage with any affected residents to investigate options for new or additional screening measures (such as planting vegetation to act as a screen or installation of suitable window blinds in the affected rooms of the residence) where appropriate and agreeable to the affected residents. If screening is not acceptable and/or will not be effective the Turbine Shutdown scheme will be implemented to ensure 'zero shadow flicker'.

As soon as the correct set of parameters is in place for a potential occurrence of shadow flicker, the turbine would immediately undergo a stopping procedure. The time it takes for a wind turbine to safely stop spinning depends on several factors, including wind conditions, turbine size and braking systems. As mentioned in Section 16.5.1 of the submitted EIAR, this can take anywhere up to 1-2 minutes and will often take less time than that if the wind speed is not very strong. As discussed in EIAR Section 16.6 this would have an imperceptible long-term effect. Following the implementation of mitigation measures no significant effects are anticipated.

This form of mitigation represents sector-wide best practice and is widely implemented across the Irish wind energy industry, with automatic shadow flicker control systems routinely incorporated into turbine operational controls.

2.2.73 Shadow Flicker Monitoring

Several submissions asked that shadow flicker effects be independently monitored.

As stated within the EIAR in Section 10.5 the Community Liaison Officer (CLO) will establish a formal system of engagement with local residents, including a point of contact for queries or

concerns related to shadow flicker. All correspondence and follow-up actions will be monitored and recorded by the Applicant to ensure effective communication.

Where agreed screening measures are implemented, the effectiveness of the measures will be monitored. If these measures do not operate to the satisfaction of the property owner or occupant, the property will be incorporated into the Turbine Shutdown Scheme. If existing or newly installed screening changes over time (for example due to damage, removal, or reduced effectiveness) ongoing engagement will continue between the Applicant, the CLO, and the affected residents. In such circumstances, appropriate alternative or replacement mitigation measures will be agreed and implemented to ensure that shadow flicker remains fully mitigated and maintained at the 'near zero' standard.

All concerns raised will be investigated by the Applicant and the turbine shutdown software adjusted as necessary, to ensure that the turbines shut down at the appropriate time. Following any software adjustments, flicker occurrence will continue to be monitored where residents report ongoing issues. This monitoring will help determine whether further refinements to the shutdown timings for any specific turbine are required.

2.2.74 Shadow Flicker Impacts on public health

Several submissions raised concerns surrounding the potential for shadow flicker to adversely affect the health of vulnerable individuals, including those with epilepsy but widely affected by the following conditions:

- Photosensitive migraines;
- Neurological conditions; and
- Tinnitus.

Section 4.3.3 of Chapter 4 (Population and Human Health) of the EIAR provided an overview of relevant research, including a review of studies from Australia, Canada, the UK and other European countries. The research found that wind farms have no associated direct pathological effects on human health, and that any potential impact can be minimised by following planning guidelines. Notable studies discussed in Chapter 4 (Population and Human Health) of the EIAR include a 2014 meta study by Knopper *et al.*, in 2014 and a study by Health Canada in 2014 which both found no links between wind farms and numerous health conditions. In addition to the above, a longitudinal study in Germany by Krekel *et al.* in 2025 found no evidence of negative effects on general, mental, or physical health, nor on doctor visits or suicide rates, in populations living near wind turbines⁶. As outlined in Section 4.6.2 of Chapter 5 (Population and Human Health) of the EIAR, based on the literature reviewed, there is currently no reliable evidence to link wind turbines to adverse health impacts.

Also, as described in Chapter 5 (Population and Human Health) of the EIAR, the UK Wind Energy Guidance Note, prepared in the UK for the Renewables Advisory Board and Department for Business, Enterprise and Regulatory Reform (BERR) in 2007, addressed the question whether the shadow flicker from wind turbines can cause effects on human health. It was found that the frequency at which photosensitive epilepsy may be triggered generally is between 2.5 and 30 flashes per second (hertz). Most commercial wind turbines in the UK rotate at between 0.3 and 1.0 hertz, giving health effects arising from shadow flicker little potential to occur.

Regardless of the above, the Applicant has committed to near-zero shadow flicker (see EIAR Chapter 10 (Shadow Flicker)) which will virtually eliminate that potential effect from dwellings in the surrounding areas through the use of screening measures and turbine control mechanisms.

2.2.75 Traffic and Transportation – Summary of Issues Raised

The traffic and transportation observations received have been reviewed and are summarised below. The principal issues relate to construction traffic volumes and duration, local-road suitability, access arrangements, passing bays, road safety, vulnerable road users, abnormal-load deliveries, emergency and community access, road condition and reinstatement, and cumulative traffic effects. The subsequent sections provide detailed responses to each of these matters.

Chapter 16 of the EIAR presents the Traffic and Transport Assessment (TTA) for the proposed development. It concludes that the road network can accommodate the temporary construction traffic, subject to the proposed access arrangements, passing bays and mitigation measures. The Traffic Management Plan included in Appendix 16-1 sets out the procedures for coordinating deliveries, maintaining local access, protecting vulnerable road users and the road network, and minimising disruption. The proposed site access arrangements have also been independently reviewed through the Stage 1 Road Safety Audit included in Appendix 16-2.

Construction is expected to extend over approximately 24 months, with the most intensive activity occurring over approximately three months. The correct peak forecast is 29 HGV arrivals and 29 departures per day, equivalent to 58 two-way HGV movements, as presented in Table 16-7 and Figure 16-7 of Chapter 16. Including construction personnel, the peak programme forecasts approximately 336 two-way vehicle movements per day, while the assessed peak construction hour comprises 34 arrivals and 34 departures, as presented in Table 16-10.

Concrete deliveries will occur on only 14 non-consecutive days and will generate approximately 19 HGV arrivals and 19 departures per hour. Non-essential HGV deliveries will be rescheduled on concrete-pour days. The highest forecast 2028 baseline approach flow is 701 vehicles at the Upper Main Street/N16 junction. The detailed assessment of the R282 Castle View/Park Road/N16 junction found that it would operate at Level of Service A during both assessed peak periods, demonstrating substantial reserve capacity.

The proposed development also includes eight passing bays along the L6184 where the existing carriageway width is 5.3 m or less. Abnormal-load deliveries will comprise a limited number of planned events undertaken under controlled conditions and coordinated with the relevant road authorities and An Garda Síochána. The required physical accommodation is identified in the submitted Turbine Delivery Route Assessment.

Following construction, traffic associated with the operational wind farm will be limited to occasional inspection and maintenance visits. The principal traffic effects will therefore be temporary and, subject to the mitigation and traffic-management measures contained in EIAR Chapter 16 and the TMP, are not expected to result in a significant long-term change in traffic conditions.

The Applicant acknowledges the traffic-related observations and recommendations made by Transport Infrastructure Ireland. The relevant recommendations concerning the national road network, abnormal-load movements, temporary traffic management and coordination with the appropriate authorities are addressed in the TTA, TMP and Turbine Delivery Route Assessment.

For ease of reference, the principal topics raised in the submissions and the relevant EIAR references are summarised in Table 2-4.

Table 2-4: Summary of Traffic Issues and EIAR Reference

Topic raised in submissions	Summary of issues raised	Relevant EIAR reference
Access Arrangements and Local Road Suitability	Concerns regarding the suitability of the local road network, particularly the L6184 and other roads forming part of the construction and turbine-delivery routes, to accommodate the forecast construction traffic, together with queries regarding the proposed site access arrangements and the distinction between public roads, existing private tracks and proposed private tracks.	EIAR Section 16.4 – Proposed Access Arrangements; Section 16.4.1 – Accesses; Section 16.5.3 – Construction Haul Routes; Section 16.9 – Mitigation Measures; Figure 16-4; Appendix 1-1 – Drawings; Appendix 16-2 – Road Safety Audit; Section 16.9.2.2 – Junction Visibility. Section 16.9.2.4.
Construction Traffic Volumes and Programme	Concerns regarding the volume of construction traffic, the accuracy of the stated HGV figures, peak construction activity, concrete-pour traffic, forestry-related traffic and the potential for congestion or disruption.	EIAR Section 16.3.3 – Existing Traffic Volumes; Section 16.5.1 – Construction Programme; Section 16.6 – Trip Generation; Section 16.7 – Traffic and Transport Assessment; Tables 16-7 and 16-10; Figure 16-7
Cumulative Traffic Effects	Concerns regarding the cumulative traffic effects of the Proposed Development in combination with other relevant permitted or proposed developments in the surrounding area.	EIAR Section 16.12 – Cumulative Effects; Appendix 16-1 – Traffic Management Plan
Concrete-Pour Traffic	Concerns regarding the concentration of concrete-delivery HGV movements and the capacity of the road network to accommodate those movements.	EIAR Section 16.6.1.1 – Concrete Pour Volumes; Section 16.8.2.1 – Construction Haul Route – Likely Significant Effects; Section 16.9.1 – Embedded Mitigation; Section 16.9.2 – Construction Phase; Appendix 16-1 – Traffic Management Plan
Vehicles Passing on Narrow Roads	Concerns that sections of the local road network are narrow and may not permit	EIAR Section 16.4.2 – Passing Bays; Section 16.5.3 – Construction Haul Routes; Section 16.9 – Mitigation

Topic raised in submissions	Summary of issues raised	Relevant EIAR reference
	construction vehicles and other road users to pass safely.	Measures; Appendix 1-1 – Drawings 10955-2080 to 10955-2082; Appendix 16-1 – Traffic Management Plan
Road Safety and Vulnerable Road Users	Concerns regarding the potential effects of construction traffic on pedestrians, cyclists, equestrians, residents, schools and other vulnerable road users.	EIAR Section 16.9 – Mitigation Measures; Appendix 16-1 – Traffic Management Plan; Appendix 16-2 – Road Safety Audit
Community, Residential and Agricultural Access	Concerns regarding the maintenance of access to residences, farms, agricultural lands, businesses and community facilities during construction.	EIAR Section 16.9 – Mitigation Measures; Appendix 16-1 – Traffic Management Plan
Emergency-Service Access	Concerns regarding the ability of emergency-service vehicles to travel through the area during construction activities and temporary traffic-management operations.	Appendix 16-1 – Traffic Management Plan
Abnormal Indivisible Loads and Turbine Deliveries	Concerns regarding the transportation of turbine components, swept-path requirements, temporary road modifications, traffic controls and potential disruption along the turbine-delivery route.	EIAR Section 16.5.4 – Abnormal Indivisible Load (AIL) Haul Route; Section 16.9 – Mitigation Measures; Turbine Delivery Route Assessment; Appendix 16-1 – Traffic Management Plan; Appendix 16-2 – Road Safety Audit
Internal Access Tracks and Material Movements	Queries regarding the use of public roads, existing private tracks and proposed private tracks, together with the movement of construction materials within the site.	EIAR Section 16.4.3 – Internal Tracks; Figure 16-4; Appendix 1-1 – Drawings
Potential Road Damage, Maintenance and Reinstatement	Concerns regarding possible damage to local roads arising from construction traffic and the arrangements for road inspection, maintenance and reinstatement.	EIAR Section 16.9 – Mitigation Measures; Appendix 16-1 – Traffic Management Plan
Community Communication	Requests for advance communication with residents, landowners, businesses and other road users concerning construction activities, delivery schedules	EIAR Section 16.9 – Mitigation Measures; Appendix 16-1 – Traffic Management Plan



Topic raised in submissions	Summary of issues raised	Relevant EIAR reference
	and temporary traffic-management measures.	
Tourism and Recreational Access	Concerns regarding potential disruption to tourism, recreational activity and access to local amenities during construction.	EIAR Section 16.9 – Mitigation Measures; Appendix 16-1 – Traffic Management Plan
National Road Network – TII Submission	Transport Infrastructure Ireland raised matters concerning the protection of the safety, capacity and function of the national road network; construction haul routes; abnormal-load movements; temporary accommodation works; traffic controls; and coordination with the relevant road authorities.	EIAR Section 16.3 – Existing Environment; Section 16.5 – Construction Programme and Haul Routes; Section 16.7 – Traffic and Transport Assessment; Section 16.9 – Mitigation Measures; Turbine Delivery Route Assessment; Appendix 16-1 – Traffic Management Plan
Local Road Network – Leitrim County Council Submission	Leitrim County Council raised matters relating to construction traffic calculations, concrete and forestry traffic, access design, visibility, swept-path assessments, passing bays, local-road widths, road protection, traffic management and turbine-delivery arrangements.	EIAR Sections 16.3.3, 16.4, 16.5, 16.6, 16.7 and 16.9; Appendix 1-1 – Drawings; Appendix 16-1 – Traffic Management Plan; Appendix 16-2 – Road Safety Audit; Turbine Delivery Route Assessment

2.2.76 Construction Traffic Volumes, Programme and Temporary Effects

Construction Traffic Forecasts

A number of third-party submissions raise concerns regarding the volume of construction traffic and HGV movements associated with the Proposed Development. The concerns include the potential for increased traffic, delays, road-safety risks and disruption to local communities, together with the ability of the existing road network to accommodate heavy construction traffic over the construction programme.

The potential effects of construction traffic have been assessed in Chapter 16 of the EIAR based on the quantities of materials, deliveries and disposals associated with each construction activity and the duration of those activities within the construction programme.

The correct forecast for the peak construction period is 29 HGV arrivals and 29 corresponding departures per day, equivalent to 58 two-way HGV movements per day. This forecast is presented in Table 16-7 and Figure 16-7 of Chapter 16 and is carried forward into the assessed peak construction scenario in Table 16-10.



Table 16-10 identifies a total of 34 vehicle arrivals and 34 departures during the assessed peak construction hour, equivalent to 68 two-way vehicle movements. This includes both construction staff and HGV traffic.

Traffic associated with forestry felling, construction of the site compounds, internal roads and turbine hardstands, and the movement of materials associated with the construction works has been incorporated into the programme-derived traffic forecasts. The proposed borrow pits and use of existing forestry tracks will reduce the quantity of construction material requiring delivery from external sources.

The traffic surveys presented in Chapter 16 demonstrate that existing traffic volumes across the assessed road network are generally low. The highest forecast baseline approach flow during the assessed peak periods was 701 vehicles at the Upper Main Street/N16 junction, with lower volumes recorded at the other assessed junctions.

The forecast percentage increases at the assessment junctions are presented in Chapter 16. The R282 Castle View/Park Road/N16 Sligo Road junction was subject to detailed PICADY modelling and was forecast to operate at Level of Service A during both assessed peak periods, with maximum RFC values of 0.16 during the AM peak and 0.21 during the PM peak. The assessment therefore demonstrates that the forecast construction traffic can be accommodated without a significant deterioration in the operational performance of the assessed road network.

Construction Programme and Duration

A number of third-party submissions raise concerns regarding the duration of the construction programme and the potential for heavy construction traffic and abnormal-load movements to cause prolonged disruption to local communities. In particular, concerns were expressed that construction could continue for several years and significantly affect the everyday use of the surrounding road network.

The construction phase is anticipated to extend over approximately 24 months. It will not continue for several years beyond the period assessed in Chapter 16. The level of traffic generated will vary throughout the construction period according to the activities taking place and will not remain at the forecast peak level for the full programme.

The peak daily HGV forecast occurs during the limited periods when several construction activities overlap. Outside these periods, the number of HGV movements will be lower, as shown in the detailed construction programme presented in Table 16-7 and Figure 16-7 of Chapter 16.

Turbine-foundation concrete pours represent a separate short-duration activity. They will occur on only 14 non-consecutive days over the approximately 24-month construction period. Other non-essential construction HGV deliveries will be rescheduled on concrete-pour days so that the concrete traffic does not occur in addition to the normal peak construction HGV demand.

The construction-related traffic effects will therefore be temporary and will vary in intensity over the programme. Following completion of construction, traffic associated with the

operational wind farm will be limited to routine inspection, maintenance and occasional servicing activities.

Temporary Traffic Effects

A number of third-party submissions raise concerns regarding the temporary effects of construction traffic on the surrounding road network. The matters raised include potential delays and disruption arising from HGV movements, turbine-component deliveries, temporary road works and associated traffic-management measures, with particular concern regarding the effects on residents, visitors and other local road users.

Construction traffic will result in a temporary increase in vehicle movements on the identified haul routes. The principal effects may include intermittent delays, the presence of HGVs, temporary traffic-management measures and short-duration disruption associated with particular construction or delivery activities.

These effects will not occur continuously at the same intensity throughout the approximately 24-month construction period. The construction programme distributes the required deliveries and material movements across the relevant activities and months, while exceptional activities such as turbine-foundation concrete pours and abnormal-load deliveries will occur only on a limited number of days.

Abnormal-load turbine deliveries will comprise approximately 23 to 38 delivery events and will take place primarily at night under delivery-specific traffic-management arrangements. The detailed effects and management of these deliveries are addressed separately under the response concerning abnormal-load deliveries, swept-path assessment and temporary works.

Construction Traffic Management

Third-party submissions raise concerns regarding how construction traffic, HGV deliveries and temporary road restrictions will be managed and whether the necessary mitigation measures have been sufficiently established at the planning stage. Concerns were also raised regarding advance communication and coordination with local residents and other affected road users during construction.

The measures required to control the identified construction traffic effects are set out in Chapter 16 of the EIAR and the submitted Traffic Management Plan (TMP). These include:

- Use of designated construction haul routes.
- Advance scheduling and coordination of HGV deliveries.
- Restrictions on HGV movements between 08:00–09:00 and 17:00–18:00 from Monday to Friday, unless otherwise agreed in writing with Leitrim County Council.
- Avoidance of sensitive areas, including schools, urban centres and densely populated areas, where reasonably practicable.
- Provision of waiting and queuing areas within the site.
- Prevention of construction vehicles queuing on adjoining public roads.
- Rescheduling of non-essential HGV deliveries on concrete-pour days.
- Temporary traffic-control measures where required.
- Advance notification of exceptional construction activities.
- Provision of a developer's representative and an out-of-hours contact number.

- Liaison with local residents, Leitrim County Council, An Garda Síochána and other relevant stakeholders.

These measures form part of the submitted assessment and establish the traffic-management requirements applicable to the construction phase. The subsequent preparation of detailed delivery schedules and location-specific temporary traffic arrangements by the appointed contractor represents the implementation of the measures already assessed and committed to in Chapter 16 and the TMP. It does not defer the assessment of construction traffic effects until after consent.

The traffic effects of the construction phase have therefore been assessed on the basis of the detailed construction programme and the forecast traffic demand presented in EIAR Chapter 16. Subject to implementation of the submitted traffic-management measures, the effects will be temporary, managed and confined primarily to the approximately 24-month construction period.

2.2.77 Cumulative Traffic Effects

The Save Dough Mountain submission raises concerns regarding the cumulative and combined effects of construction traffic on local communities. In particular, it contends that construction traffic may affect the same occupied townlands at the same time as other environmental effects and that the combined burden on these receptors has not been adequately considered.

Potential cumulative traffic effects are assessed in Section 16.12 – Cumulative Effects of Chapter 16 of the EIAR. As set out in Section 16.12.1 – Construction Phase – Cumulative Developments, a 10 km search of relevant local-authority and An Coimisiún Pleanála planning records was undertaken to identify granted and live planning applications that could contribute to cumulative traffic effects. The applications reviewed are presented in Appendix 1-4 of the EIAR.

The review considered the potential for construction programmes and associated traffic movements to overlap with those of the proposed development. The assessment concluded that, subject to the implementation of the traffic-management measures set out in Chapter 16 and the submitted Traffic Management Plan, the proposed development would not give rise to significant cumulative traffic effects.

The principal traffic effects of the proposed development will be temporary and associated with the approximately 24-month construction phase. Traffic levels will vary throughout this period and will not remain at the forecast peak for the full construction programme. Concrete-pour traffic will occur on only 14 non-consecutive days, while abnormal-load deliveries will comprise approximately 23 to 38 planned delivery events.

Construction traffic will be managed through delivery scheduling, restrictions during the identified weekday peak periods unless otherwise agreed, avoidance of sensitive locations where reasonably practicable, provision of off-road waiting areas, temporary traffic controls, advance notification and coordination with local residents, Leitrim County Council, An Garda Síochána and other relevant stakeholders. These measures will also allow the construction programme and delivery arrangements to be coordinated with other developments where an overlap is identified.

Accordingly, the cumulative traffic effects of the proposed development, in combination with the other relevant planning applications and developments reviewed in Section 16.12 of Chapter 16, have been considered and are not expected to result in a significant effect on the operation or safety of the surrounding road network.

2.2.78 Local Road Suitability, Passing Bays, Protection and Reinstatement

Local Road Characteristics

A number of third-party submissions raise concerns regarding the suitability of the local-road network for construction HGVs and abnormal-load deliveries. Particular concerns relate to the narrow and winding nature of the roads, their existing condition and the potential for construction traffic to cause road damage and create difficulties for other road users.

The local roads forming the final approaches to the site are characteristic rural roads of varying width, bordered in places by hedgerows, verges and open drainage.

The construction access strategy has been developed having regard to these existing conditions. National and regional roads will be used for as much of each delivery journey as feasible, with local roads used principally for the final approach to the relevant site entrances.

The forecast construction vehicle types and volumes are presented in Chapter 16 of the EIAR. Most construction materials will be transported using maximum-legal articulated vehicles or smaller HGVs. The proposed entrances and local-road routes have been assessed for the relevant construction vehicles, with delivery scheduling and temporary traffic management used to control vehicle movements on constrained sections.

Pre-Construction Road-Condition Survey

Third-party submissions raise concerns regarding potential damage to the local-road network arising from construction HGVs and turbine-component deliveries. The pre-construction road-condition survey will establish an agreed baseline against which any construction-related deterioration or damage can be identified.

Before construction begins, a condition survey will be undertaken along the public roads forming the approaches to the site. The survey will record the existing condition of the carriageway, road edges, verges, drainage features and other associated road infrastructure.

The timing and extent of the survey will be agreed with Leitrim County Council. The survey will establish the baseline against which the condition of the road network can be monitored during construction and following completion of the works.

Any localised pavement strengthening, road-edge support or remedial works identified as necessary through the pre-construction inspection and detailed construction planning will be agreed with Leitrim County Council before the affected sections are used by construction traffic. The details will take account of the existing road construction, carriageway width, verge and edge condition, drainage arrangements and anticipated construction vehicle loading.

Monitoring and Maintenance During Construction

Third-party submissions raise concerns regarding potential damage to the local-road network and the effects of road works, mud, dust, debris and other construction-related disruption. The

following monitoring and maintenance measures will apply throughout construction to ensure that the affected routes remain safe and serviceable.

Throughout construction, the designated haul routes will be regularly inspected and maintained in a safe and serviceable condition. Any deterioration or damage attributable to construction traffic will be repaired by the developer in consultation with Leitrim County Council.

The submitted Traffic Management Plan also provides for:

- Road cleaning and control of mud, dust and debris.
- Wheel-washing measures where required.
- Monitoring of road edges, verges and drainage features.
- Prevention of construction vehicles waiting or queuing on the public road.
- Temporary traffic control where required during road works or maintenance.
- Prompt repair of construction-related road damage.
- Provision of a developer's representative and an out-of-hours contact number.

These measures will apply throughout the construction period and will enable road-condition issues to be identified and addressed as they arise.

Post-Construction Reinstatement

Third-party submissions raise concerns regarding potential damage to the local-road network arising from construction HGVs and turbine-component deliveries. The post-construction survey and reinstatement commitments will ensure that any damage attributable to the construction works is identified and remedied at the Applicant's expense.

Following completion of construction, a post-construction condition survey will be undertaken to identify any remedial measures required. Its results will be compared with the pre-construction baseline survey.

Any damage attributable to the construction works will be repaired at the applicant's expense. The affected sections of the public-road network will be restored to at least their pre-construction condition, with the timing, scope and standard of the reinstatement agreed with Leitrim County Council.

The submitted commitments to pre- and post-construction condition surveys, ongoing inspection, maintenance and reinstatement establish the measures through which the local-road network will be protected. The detailed scheduling and implementation of those measures by the appointed contractor represent the construction-stage delivery of commitments already contained in the EIAR and TMP; they do not defer consideration of the road effects until after consent.

2.2.79 Road Safety and Vulnerable Road Users

A number of submissions raised concerns regarding the potential effects of construction traffic on children, school transport, pedestrians, cyclists, equestrians and other users of the local-road network, including the L6184 and L61801.

Construction traffic will be managed through implementation of the Traffic Management Plan (TMP) included in Appendix 16-1 of the EIAR. The TMP includes measures to ensure that

construction traffic is appropriately controlled and that interactions with vulnerable road users are minimised. These measures include:

- Scheduling HGV movements to avoid school drop-off and pick-up periods where practicable.
- Directing HGV movements away from schools and other sensitive areas where reasonably practicable.
- Implementing temporary traffic-management measures at locations where interaction with vulnerable road users cannot be avoided.
- Undertaking abnormal-load turbine deliveries primarily at night, when general traffic levels and interaction with school traffic and other road users are lower.
- Providing appropriate warning signage, speed management and traffic-control measures.
- Preventing construction vehicles from waiting or queuing on the adjoining public roads.
- Providing waiting and queuing areas within the site.
- Coordinating construction traffic arrangements with Leitrim County Council, An Garda Síochána and relevant local stakeholders where required.
- Providing advance notification of exceptional construction activities and abnormal-load deliveries.

It is acknowledged that the L6184, L61801 and other local roads are used by cyclists, walkers and equestrians. Construction drivers will be required to proceed with appropriate caution when encountering vulnerable road users, particularly on constrained sections of the local-road network. The proposed passing bays along the L6184 will provide additional locations at which vehicles and other road users can wait or pass safely.

These measures will minimise potential interaction between construction vehicles and vulnerable road users during the temporary construction phase.

2.2.80 Community Access, Farming and Tourism

Residential and Community Access

A number of third-party submissions raise concerns that construction HGVs, temporary traffic-management measures and turbine deliveries could restrict or disrupt access for local residents and communities. The matters raised include access to homes, employment, schools, farms, family members, services and other local facilities.

The local roads will remain available to residents and other road users throughout the construction period, except where a temporary restriction is required to undertake specific works or facilitate an abnormal-load delivery.

Construction traffic will be managed through the Traffic Management Plan included in Appendix 16-1 of the EIAR. Deliveries will be scheduled in advance, and construction vehicles will not be permitted to wait or queue on adjoining public roads. Waiting and queuing areas will instead be provided within the site.

Where temporary traffic management or a short-duration road restriction is required, the works will be planned outside peak traffic periods where practicable. The appointed contractor

will consult local residents, Leitrim County Council and An Garda Síochána in advance and will agree an appropriate traffic-management or diversion arrangement before the restriction is implemented.

Access to homes, employment, family members, services and local facilities will be maintained throughout construction. Where a temporary restriction has the potential to affect a particular property or local activity, the affected road users will be informed in advance and appropriate access arrangements will be established.

Farming Activities

Third-party submissions raise concerns regarding the potential effects of construction traffic on farming activities. The matters raised include continued access to agricultural lands, the movement of livestock and farm machinery, and the potential for construction deliveries or temporary road restrictions to disrupt routine and seasonal agricultural activities.

It is acknowledged that the local roads are used for agricultural activities, including the movement of livestock and farm machinery, feed and material deliveries, veterinary access and seasonal farm work.

Construction traffic will be managed so that access to agricultural lands and farm properties is maintained. Construction vehicles will be scheduled to avoid unnecessary obstruction of the local-road network and will wait within the development site rather than on the public road.

Where a planned delivery, temporary road restriction or construction activity has the potential to interact with a known livestock or agricultural movement, the contractor will liaise with the affected landowner or farmer so that the respective movements can be coordinated safely.

The traffic effects will be limited to the temporary construction period. Following completion of construction, operational traffic will principally comprise small vehicles associated with routine inspection, maintenance and monitoring.

Tourism and Visitor Access

The concerns regarding the effect of construction traffic, road works and temporary traffic-management measures on the use and experience of local roads and green lanes by visitors are acknowledged.

Construction traffic will result in a temporary change in traffic conditions along the identified haul routes. However, the level of activity will vary throughout the approximately 24-month construction programme and will not remain at the forecast peak for the full construction period.

National and regional roads will be used for as much of each delivery journey as feasible, with local roads used primarily for the final approach to the site. Exceptional activities, including turbine-foundation concrete pours and abnormal-load deliveries, will occur on a limited number of days and will be subject to specific traffic-management and advance-notification arrangements.

The local-road network will remain available to visitors and recreational users, subject to any short-duration restrictions required for particular construction works or turbine deliveries.

Temporary restrictions will be limited to the period necessary to undertake the applicable activity and will be removed when the activity is complete.

Advance Notification and Community Liaison

Third-party submissions raise concerns regarding disruption to residents, farmers, businesses and other road users during construction, including disruption associated with temporary road restrictions and night-time turbine-component deliveries. Advance notification and community liaison are proposed as measures to ensure that affected parties are informed and that local access and essential activities can be coordinated.

Consultation with local residents will be undertaken before construction begins. Residents and other affected road users will be informed of upcoming traffic-related matters, including temporary lane or road restrictions and night-time turbine-component deliveries.

The information provided will include the contact details of the developer's representative, who will act as the principal point of contact for queries during normal working hours. An out-of-hours contact number will also be made available.

Advance communication, delivery scheduling, off-road waiting, temporary traffic management and liaison with affected residents, farmers, businesses and public authorities will ensure that local access and essential activities can continue throughout the temporary construction phase.

2.2.81 Emergency-Service Access During Construction

The concerns regarding the ability of emergency vehicles to travel along the construction haul routes and access properties during construction are acknowledged.

The Traffic Management Plan included in Appendix 16-1 of the EIAR contains specific emergency procedures applicable throughout the construction phase. It requires that emergency services retain ready access to properties along the haul routes, areas surrounding the development infrastructure and the wind farm site.

Emergency vehicles will be given priority use of the affected roads. Where the contractor is notified that priority access is required, all construction vehicles will be directed to stop, wait at an appropriate location or otherwise give right of way to the emergency vehicle until the need for priority access has passed.

Waiting and queuing areas will be provided within the development site so that construction vehicles do not unnecessarily obstruct the adjoining public-road network. Traffic Management Operatives will also be available during activities requiring active control of construction traffic.

Where a temporary traffic-management arrangement, diversion or short-duration road restriction is required, the arrangement will be developed in consultation with local residents, Leitrim County Council, An Garda Síochána and the emergency services before implementation. The applicable traffic-management arrangement will maintain emergency access and identify how an emergency vehicle will be accommodated through or around the controlled area.

Emergency procedures and appropriate contact details will be agreed with the local emergency services. In the event of an emergency:

- The emergency services will be contacted immediately by calling 112.

- The location and details of the emergency will be provided to the emergency operator.
- The instructions of the local authorities and An Garda Síochána will be followed.
- The incident will be reported to the Site Team Supervisor and Safety Officer.
- Site first-aid personnel will attend where required.
- The Safety Officer will confirm that the emergency services are en route and ensure that access is kept clear.

Priority access to and from the wind farm site will similarly be provided to ambulances, fire appliances and other emergency vehicles.

The construction traffic arrangements will therefore not prevent emergency travel or access to properties along the haul routes. Emergency vehicles will retain priority at all times, supported by agreed procedures, clear contact arrangements and active management of construction traffic.

2.2.82 Abnormal Load Deliveries, Swept-Path Assessment and Temporary Works

Turbine Delivery Route Assessment

Third-party submissions raise concerns regarding the movement of turbine blades and other abnormal loads along the proposed delivery route, including whether an appropriate swept-path assessment has been undertaken and whether the space and temporary accommodations required to facilitate the deliveries have been identified and assessed.

The TDR route is presented in EIAR Appendix 2-1 including a swept path analysis along the route. The delivery of turbine components via the TDR route, including swept path analysis, has been assessed in all relevant chapters of the EIAR, NIS and associated appendices.

The swept-path assessment considers the turbine-delivery vehicle required to transport the blades and other turbine components. It establishes the physical space required for the vehicle to negotiate the route and shows the associated overrun and oversail areas and the locations of existing roadside infrastructure and other potential constraints.

The proposed abnormal indivisible load route is also described in Section 16.5 of Chapter 16 of the EIAR and illustrated in Figure 16-6, Abnormal Indivisible Load Delivery Route. The submitted TDR report and associated swept-path drawings are presented as EIAR Appendix 2-1. A full assessment of the TDR route was undertaken in the relevant EIAR chapters, NIS and associated appendices.

While the TDR and the potential accommodation requirements have been considered and assessed in the EIAR, the TDR accommodations do not form part of the current planning application. Any accommodation works requiring planning permission will be subject to a separate planning application.

Road Safety Audit and Updated Drawings

Third-party submissions raise concerns regarding whether the road-safety issues identified through the Stage 1 Road Safety Audit were resolved and reflected in the submitted access

drawings. Concerns were also raised regarding the relationship between the Road Safety Audit and the separate TDR swept-path assessment.

The Stage 1 Road Safety Audit and the Turbine Delivery Route assessment were prepared as separate technical assessments with different purposes.

The Road Safety Audit considered the road-safety aspects of the proposed site-access arrangements, including access geometry, visibility, gradients, drainage and management of temporary overrun areas. The TDR assessment separately considered whether the turbine-delivery vehicle could negotiate the complete delivery route and identified the physical accommodation required.

The access drawings included in the planning application documentation incorporate the design responses arising from the completed Road Safety Audit. The Road Safety Audit, completed Feedback Form, access drawings and TDR swept-path assessment, EIAR and NIS should therefore be read together as a coordinated assessment package.

Temporary Works in Manorhamilton

Third-party submissions raise concerns regarding the temporary works and traffic-management measures required to facilitate turbine-component deliveries through Manorhamilton. The matters raised include potential alterations to the public realm, temporary parking or traffic restrictions and disruption to residents and other road users along the delivery route.

While the TDR accommodation requirements have been considered and assessed in the EIAR, they do not form part of the current planning application. Any accommodation works requiring planning permission will be subject to a separate planning application.

The temporary accommodation requirements identified along the AIL route are summarised in Table 16-16 within Section 16.8.2.4 of EIAR Chapter 16.

The TDR report and swept-path drawings identify the physical accommodation required to facilitate turbine deliveries through Manorhamilton. Depending on the requirements at each constrained location, the temporary measures may include adjustment or removal of street furniture, vegetation management, temporary oversailing, localised road-edge works, temporary parking controls and other measures required to maintain the assessed vehicle swept path.

The temporary works will be limited to the extent and period necessary to facilitate the turbine-delivery events. The route will be inspected before the delivery programme begins to confirm the continued availability of the swept path and the precise temporary arrangements required.

The implementation of temporary works and traffic controls within Manorhamilton will be coordinated in advance with local residents, Leitrim County Council and An Garda Síochána.

Delivery Timing and Resident Disturbance

A third-party submission raises concern regarding the potential disturbance to residents associated with night-time turbine-component deliveries, including the potential for sleep disturbance arising from abnormal-load convoys travelling along the delivery route.

Approximately 23 to 38 turbine-delivery events are anticipated. The deliveries will take place outside normal construction hours, primarily during the night, when general traffic volumes and the potential for conflict with other road users are lower.

It is acknowledged that night-time deliveries may be noticeable to residents along the route. However, these movements will occur on a limited number of nights and will comprise controlled convoys travelling through each location for a short period rather than continuous night-time construction traffic.

Residents will be informed in advance of the turbine-delivery programme and of the nights on which deliveries are scheduled. The information provided will include details of any temporary parking, lane or road restrictions and the contact details of the developer's representative. An out-of-hours contact number will also be made available.

Potential noise effects associated with construction and delivery activities, including consideration of sensitive periods, are assessed in Chapter 12 of the EIAR. The traffic-management arrangements will minimise the duration of each convoy movement and avoid unnecessary waiting or idling on the public-road network.

Delivery-Specific Traffic Management

A third-party submission raises concern regarding the potential disturbance to residents associated with night-time turbine-component deliveries, including the potential for sleep disturbance arising from abnormal-load convoys travelling along the delivery route.

Each turbine-delivery convoy will operate under delivery-specific temporary traffic-management arrangements and will be accompanied by a Garda escort. The arrangements will include:

- Advance inspection of the complete delivery route.
- Advance scheduling and notification of delivery events.
- Temporary parking restrictions where parked vehicles would obstruct the assessed swept path.
- Temporary adjustment or removal of street furniture where identified in the TDR report.
- Appropriate warning signage and traffic-control measures.
- Traffic Management Operatives at locations requiring active control.
- Prevention of unnecessary waiting or idling on the public road.
- Garda escort of the turbine-delivery convoy.
- Removal of temporary restrictions and reinstatement of temporary accommodation areas after the convoy has passed.

The detailed delivery programme and traffic-management arrangements will be agreed with the relevant road authorities and An Garda Síochána before turbine deliveries commence.

The turbine deliveries will therefore comprise a limited number of planned and controlled events. The submitted TDR report, swept-path drawings, Road Safety Audit, updated access drawings, Traffic Management Plan and relevant sections across the EIAR, collectively identify how the deliveries and associated temporary works will be safely accommodated.

2.2.83 Construction Layout, Internal Access Tracks and Material Movements

Temporary Access from the L61844

The temporary access arrangement from the L61844 is included in the submitted project documentation.

Section 16.4.1 of Chapter 16 of the EIAR identifies Temporary Site Access 2 on the L61844 as a modified existing temporary entrance to be used during construction. The location of this access and its relationship with the internal site-track network are illustrated in Figure 16-4, Site Entrances and Temporary Crossing Points.

EIAR Figure 16-4 distinguishes the public, existing-private and proposed-private sections of the access network. The figure shows the L61844, Temporary Site Access 2 and the internal tracks serving the relevant part of the development, including the area between turbines T13 and T14.

The temporary access and associated track arrangement are therefore included in the access strategy assessed in EIAR Chapter 16. The relevant entrance and internal-track details are also shown on the planning drawings submitted with the application.

Internal Access-Track Network

Third-party submissions raise concerns regarding how construction traffic and material movements will be accommodated across the development site, including the extent to which construction traffic will use the local public-road network and the adequacy of the proposed internal access arrangements.

Section 16.4.3 of EIAR Chapter 16 describes the internal access-track network. Approximately 7.95 km of new tracks and 8.35 km of upgraded existing tracks are proposed.

The internal tracks will generally have a running width of approximately 5 m, or 5.5 m including shoulders, with wider sections at passing bays, bends and the final approaches to turbine hardstands. The track construction and drainage arrangements are shown on the drawings accompanying the planning application, including Drawing 10955-2033.

The internal tracks connect the site entrances, turbine locations, compounds, borrow pits and other development infrastructure. However, not all construction movements between these areas will be confined to the internal access-track network. The L6184 will also be used to access a number of the site entrances serving turbines T1 to T8 and Borrow Pit 2. Construction traffic using the L6184 has been included within the public-road traffic assessment and will be managed through the proposed passing bays and construction traffic-management measures.

Soil and Material Movements

A number of third-party submissions raise concerns regarding the movement of construction materials within the development site, including the use of the internal access-track network and local public roads for the movement of soil, stone and other construction materials.

EIAR Chapter 16 assesses the public-road traffic generated by the construction works. The construction traffic forecasts were derived from the materials, deliveries and disposals required

for each activity and the duration of those activities within the detailed construction programme.

Where soil, stone or other excavated material is moved between locations within the development site, the movement will use the internal access-track network where available. However, sections of the L6184 will also be used by construction traffic to access the relevant site entrances and different areas of the development. Accordingly, only movements undertaken wholly within the private internal access-track network will not constitute additional movements on the public-road network.

Existing traffic conditions along the L6184 corridor were established through seven-day Automatic Traffic Count surveys undertaken at Cherrybrook and Boleyboy. The construction traffic assessment also includes the L6184/N16 junction. During the assessed peak construction period, the Proposed Development is forecast to result in an additional six vehicle movements at this junction during both the AM and PM peak hours, representing increases of approximately 2.4% and 2.1%, respectively. These increases are well below the 10% threshold identified in the TII Traffic and Transport Assessment Guidelines (TII Publication PE-PDV-02045, May 2014), above which detailed traffic modelling is required.

In addition, eight passing bays are proposed along the L6184 to facilitate the safe movement of construction traffic and general road users. The passing bays are provided where the existing carriageway width is 5.3 m or less and are intended to improve operational efficiency and reduce the potential for conflict between opposing vehicles. Together with the traffic-management measures set out in the TMP, these measures provide for the safe management of construction traffic using the L6184.

Where material must be imported to or exported from the site, the associated vehicle movements are included within the construction programme calculations presented in Table 16-7 and Figure 16-7 of EIAR Chapter 16.

The use of the three on-site borrow pits will allow suitable stone to be reused within the development and will reduce the quantity of aggregate requiring importation from external quarries. Similarly, the internal-track design uses existing forestry tracks where feasible, reducing the volume of new construction material required.

Traffic associated with forestry felling and vegetation clearance has also been incorporated into the construction programme. Approximately 585 off-site timber loads are anticipated over the felling programme. These are distributed programme totals and are included within the applicable daily construction HGV forecasts; they do not represent additional daily movements to be added to the assessed peak traffic.

Assessment and Traffic Management

A number of third-party submissions raise concerns regarding whether the proposed construction access arrangements and movement of materials across the development site have been adequately identified and assessed, including the use of public roads, existing private tracks and proposed internal access tracks.

The construction layout, site entrances, internal tracks, borrow pits and programme-derived public-road traffic have therefore been identified and assessed in the submitted documentation.

The detailed sequencing of internal soil and material movements will be managed by the appointed contractor through the construction-stage programme and the Traffic Management Plan. This represents implementation of the access and material-management strategy already described and assessed in the EIAR rather than the deferral of the traffic assessment until after consent.

Subject to implementation of the submitted access arrangements and traffic-management measures, material movements will use the internal access-track network where available. However, sections of the L6184 will also be used by construction traffic to access the relevant site entrances and different areas of the development. These public-road movements are accounted for within the construction traffic assessment, while movements undertaken wholly within the private internal access-track network do not generate additional public-road traffic.

2.2.84 Grid Capacity Constraints and Upgrades

Submissions by Adrienne Diamond, Jacinta and Desmond McNulty, Maureen Keaney, Claire O'Hara and Martina Viglas raise concerns regarding grid capacity and infrastructure upgrades to facilitate wind farms in the area. These submissions also state that there are no areas in the region where new wind turbines would be considered acceptable in principle.

In response, EirGrid are responsible for planning, developing and operating the grid and where they see issues they are best placed to manage grid constraints. They are progressing projects, including new and upgraded infrastructure along with operational improvements, to add capacity. At the end of last year, they got approval for the revenue allowance to proceed with a number of projects under CRU's PR6 which adds more grid capacity, and they can look for a higher revenue allowance if they need to carry out more projects beyond those already identified. EirGrid also are progressing the 'Powering Up the North West' project⁵⁸. Powering Up the North West is a proposed programme of works designed to meet increased electricity demand in the region and to enable the integration of more renewable energy sources onto the electricity grid.

It is also of note that grid constraints should not be seen as an impediment to granting permission for windfarms since a critical mass of projects with consent is a key enabler for further grid investment (and that there are various strategies in respect of the latter being advanced at present).

2.2.85 Wind energy dispatch down / curtailment

Submissions by Conor Maguire and the Leitrim Tourism Network raise concerns regarding dispatch down energy associated with wind farms.

In response, dispatch down wind energy refers to energy generated that could have been used but is deliberately reduced / not delivered to the electricity grid. This is also called curtailment or constraint. This is an essential part of maintaining grid stability and consistent electricity supply.

⁵⁸ <https://www.eirgrid.ie/northwest>



Dispatch down energy is a commercial focused issue for windfarms, which does not affect the ability of windfarms to generate renewable electricity.

It is of note that grid constraints should not be seen as an impediment to granting permission for windfarms since a critical mass of projects with consent is a key enabler for further grid investment (and that there are various strategies in respect of the latter being advanced at present).

2.2.86 Telecommunications and broadband

Submissions by Eithne McNulty, Nuala McNulty and Jason Fox raise concerns regarding telecommunication and broadband interruptions associated with the wind farm development.

In response to this, as described in Chapter 15 of the EIAR, no opposition was expressed by ESB Networks or any broadband providers in regard to the proposed project, following the receipt of consultation responses from telecommunication operators and providers.

A Telecommunications Impact Assessment was conducted and presented as Appendix 15-1 of the EIAR. Results from telecommunications impact analysis in Appendix 15-1 indicate that although that there are five telecom operators with networks in the vicinity of the proposed project, only one operator network (2RN) would be impacted by the proposed turbine layout. Mitigation measures are also listed in the Telecommunications Impact Assessment. Operator network 2RN have indicated they do not have any objection to the proposed development proceeding on the basis that any mitigation measures, if required, would be covered by the wind farm developer.

No interruptions will occur during the operational phase on the proposed project. In the unlikely event that any unknown services are encountered during excavation works, there is potential for accidental damage or temporary isolation of these services. This could result in short-term disruption to local electricity supplies, causing a temporary, slight, negative effect. Any such effects would be localised, of limited duration, fully reversible, and confined to the construction phase.

Specific concerns were raised regarding Adelphi Net1 broadband disruption. As discussed in Chapter 15 of the EIAR, no direct impacts are anticipated.

Adelphi Net1 has expressed no opposition to the proposed project and has agreed that any necessary mitigation measures for this radio link would be the responsibility of the Applicant.

The potential mitigation solutions for the Adelphi Net1 radio link are as follows:

1. Increasing the installation height of the radio antenna at Dough Mountain.
2. Relaying the link via a relay mast situated within the proposed wind farm site.

Following further consultation prior to construction, one of the above mitigation strategies will be chosen and implemented if needed, and there will be no significant effects to telecommunications infrastructure.

The Applicant will liaise with service providers, and all efforts will be made to limit disruption to service. Best-practice mitigation measures that will be in place are described in Chapter 15 Material Assets and Appendix 15-1 of the EIAR.

2.2.87 Deprioritisation of onshore wind farms

A submission by Felim Gurn suggest that wind energy should be developed offshore instead of onshore, and that greater emphasis should be placed on solar energy developments instead of wind farm developments. This submission implied that future onshore wind development is inappropriate due to Ireland's energy system inefficiencies. In response, it is important to clarify both the wider national policy context for renewable energy and the status of the relevant Development Plan provisions.

In response, and in the context of Ireland's energy transition, onshore wind remains a critical pillar, alongside offshore wind and solar in delivering the Climate Action Plan targets and Ireland's binding 2030 climate commitments. While Ireland has significant offshore wind potential, particularly along the Atlantic coast, there are economic challenges with delivering offshore wind here. The timeline for large-scale offshore deployment is lengthy due to complex consenting processes, substantial grid-infrastructure requirements, and high capital costs. Solar energy, though expanding rapidly, began from a very low baseline and still represents a modest share of Ireland's renewable electricity. As recently as 2025, solar provided just 4%⁵⁹ of national renewable energy generation. By contrast, onshore wind is a cost-effective, and readily deployable technology, capable of providing significant renewable capacity in the short to medium term.

Under the Climate Action Plan 2025, Ireland must deliver 9 GW of onshore wind, 8 GW of solar PV, and at least 5 GW of offshore wind by 2030. Achieving this balanced mix is critical for maintaining grid stability, meeting interim emissions-reduction milestones, and ensuring energy security on the path to net zero by 2050. Onshore wind also offers important regional benefits, including local investment, employment, and community benefit funds. Its generation profile complements solar production, delivering renewable electricity during darker, windier periods when solar output is low. Without continued onshore wind development Ireland risks falling short of its legally binding 2030 targets and increasing reliance on fossil fuels.

Assertions that onshore wind should be deprioritised in favour of offshore or solar energy, or that the proposed wind farm site is inappropriate, are not supported by national policy, regional obligations, or the applicable development plan provisions.

2.2.88 Noise and Vibration

Third party submissions that have comments on or raised issues relating to Noise and Vibration are addressed here. The comments have been dealt with under several headings or themes below which cover the main topics raised in the Submissions.

2.2.88.1 *Applicability of Guidelines and reference to the WHO Guidelines*

The assessment of noise and vibration has been undertaken in accordance with the applicable guidelines (WEDG06) and best practice guidance and standards for construction, demolition and operational phases of the proposed development as described in Section 9.3 of the EIAR.

⁵⁹

<https://www.cso.ie/en/releasesandpublications/ep/pess/electricitysupplybysource2025/generationenergy/gysources/>



The assessment of Residual Effects presented in Section 9.8 of the EIAR confirm that all elements of the proposed development considered cumulatively with the existing Faughary Wind Farm will be within the appropriate threshold values and noise and vibration limits identified.

The wind turbine noise assessment was undertaken in accordance with the Wind Energy Development Guidelines for Planning Authorities, as detailed in Section 9.3.4.3 of the EIAR.

The WHO 2018 guidelines were also considered and are addressed in Section 9.3.4.5.

In Section 9.2, it is noted that in pre-application consultation with Leitrim County Council, the LCC had stipulated that “Any such noise impact assessments shall be in accordance with the 2006 Wind Energy Development Guidelines, pending their replacement, and should have regard to the more detailed methodology set out in the ‘Good Practice Guide [GPG] to the application of ETSU-R-97 for the assessment and Rating of Wind Turbine [Noise]’”. As presented in Section 9.3.4.3, this was the approach adopted in the assessment.

2.2.88.2 Amplitude Modulation and Tonality

As explained in Section 9.3.4.7 of the EIAR, the occurrence, duration and conditions associated with amplitude modulation cannot be reliably predicted at the planning stage. The EIAR therefore provides for amplitude modulation to be investigated and managed during operation where a complaint indicates that it may be present.

The commitments for managing complaints relating to wind turbine noise, with specific provisions for amplitude modulation and tonality are set out in Section 9.7.4, confirming the Applicant's commitment to operational noise monitoring and the investigation of noise complaints in accordance with an agreed monitoring protocol.

Prior to commissioning, the Applicant will submit a Noise Compliance Monitoring Programme to the planning authority for written agreement. This will set out the methodology for noise measurements, procedures for recording results and the process for managing complaints relating to noise in accordance with current guidance and industry best practice. Appendix 9.10 of the EIAR provides a Noise Management Protocol, including procedures for complaints relating to amplitude modulation and tonality.

2.2.88.3 Infrasound and Low-frequency Noise

Submissions claim that impacts from low frequency noise and infrasound were not considered or assessed in Chapter 9 of the EIAR.

Section 9.3.4.6 of the EIAR presents a discussion on the evidence for low frequency noise and infrasound associated with the operation of wind turbines. The EIAR has considered the potential for low frequency noise and infrasound associated with wind turbine noise.

2.2.88.4 Comments on Health

The assessment of noise and vibration has been undertaken in accordance with the applicable guidelines (WEDG06) and best practice guidance and standards for construction, decommissioning and operational phases of the proposed development as described in Section 9.3.4.3 of the EIAR. The assessment of Residual Effects presented in Section 9.8 of the EIAR

confirm that all elements of the proposed development, when considered cumulatively with the existing Faughary Wind Farm, will be within the appropriate threshold values and noise and vibration limits identified.

Any additional responses addressing health concerns related to noise and/or vibration are provided under separate headings within this document.

2.2.88.5 Cumulative Assessment with Faughary Wind Farm

As discussed in Section 9.4.3.2, Faughary Wind Farm was included in cumulative noise assessment as required by the Guidance. The assessment of Residual Effects presented in elements of the proposed development in combination with the existing Faughary Wind Farm will be within the appropriate threshold values and noise and vibration limits identified.

2.2.88.6 Calculation Methodology: Topography and Valley Correction

As stated in Section 9.4.3.2, the noise propagation calculation settings recommended in the IOA GPG have been applied. In Appendix 9-5, under the heading Topographic Screening, it is confirmed that the appropriate screening limits and valley correction have been applied.

2.2.88.7 Baseline Survey Equipment, Locations and Photographs

Several submissions refer to EIAR Appendix 9-3 which reports on the baseline noise survey carried out for the EIAR. The submissions refer to the following elements:

- Photographs of noise survey locations;
- Calibration Certificates, and
- Noise survey location references.

We have reviewed Appendix 9-3 and we have noted some errors in the presentation of the noise survey location references. To address the anomalies, an updated Appendix 9-3 Background Noise Survey has been provided including the correct calibration certificates, photographs and confirmation of the locations used during the baseline noise survey and their corresponding dwelling references.

The revised Appendix 9-3 presents an updated figure showing noise survey locations and also coordinates in Table 2.3 therein.

There are corrections to the dwelling references (i.e. references H0010 etc.) associated with each NML and to the coordinates of certain NMLs, as follows:

- Minor corrections to the coordinates of NMLs 1, 2, 5 and 9;
- At NML-9, the specific dwelling has been corrected;
- The dwelling references attached to noise survey locations NML-10 and NML-11 were interchanged in the EIAR, and the specific house at NML-11 has been corrected.

In Table 9-6 of the Chapter 9 of the EIAR, the dwelling references were incorrect, they pertain to a previous numbering system. The updated Table 2.1 below replaces both the Table 9.6 of the main chapter and the Table 2-1 in Appendix 9-3 Background Noise Survey.



The measured noise levels Table 9-12 in the EIAR and the graphed and tabulated results for each NML in an Appendix 9-3 remain correct.

The above corrections do not alter the findings of the assessment: Section 9.5.2.1 in the EIAR presents noise criteria based on each of the prevailing background noise levels measured at the eleven background noise survey locations – it is noted that the criteria set at NML-4 are the lowest at any NML. Even if the predicted noise levels are compared to these lowest criteria, no exceedances of the noise criteria are found. The conclusions remain valid as presented in Chapter 9 of the EIAR.

The updates to the appendix provided do not affect the data collected at each location nor do they have any effect on the outcome of the assessment; conclusions remain valid as presented in Chapter 9 of the EIAR.

2.2.89 Air Quality- Blasting

In relation to the effects of potential effects of blasting, this activity is not proposed as part of the construction works for the proposed project and has therefore not been considered as part of EIAR Chapter 11 Air Quality.

2.2.90 Peat Stability Risk Assessment

Leitrim County Council raised seven points regarding the Peat Stability Risk Assessment (PSRA). Several third party submissions raised similar and related points, but also further diverse points that relate to the stability of the peat deposits at the site, in both the short and long term.

Pete Farrell has raised issues relating to the deterministic stability analysis which require clarification here. It is stated in the submission that the bar for the analysis is an Overdesign Factor of 1.0 and that several assessment areas are “within 50% of failure” and others “only a 10% margin over the threshold”. This is to misinterpret the analysis outcomes. An Overdesign Factor of 1.0 or above shows that the design meets the reliability requirements of Eurocode 7, the harmonised European standard for geotechnical engineering works, and any interpretation of margins of failure is not appropriate in this context. The lower Case 2 Overdesign Factors relate to transient conditions during construction where 1.0m of peat has been temporarily stored or construction plant are operating and is an upper-bound assessment. For the case of Overdesign Factor = 1.0, the serviceability limit state global factor of safety is at least 1.6, i.e. the peat can support 1.6 times the imposed loadings.

A further submission notes that cut and fill batters, drainage measures, turning bays etc. may extend the site footprint. We note in response that the red line boundary includes such land uses and the PSRA takes account of this.

Several submissions, including Leitrim County Council's, relate to weather conditions and extremes of weather conditions. A full answer is given in relation to this topic earlier, but we wish to confirm again that the PSRA has taken account of weather extremes, both in terms of drying out of the peat and of saturation of the peat, through the qualitative and deterministic analysis.



Several submissions (including Leitrim County Council, Pete Farrell, Brendan P. Gallagher, The Holey Soles Hillwalking Group, Rosemary Kerrigan, Kiltyclogher Community Council, Niall McEnroy, and Liam Murray) refer to historical landslides both locally, in Leitrim, and nationally, whether relating to development or due to natural processes including extreme weather events.

In the earlier response to Leitrim County Council's submission, the 5 nr shallow peat landslides in the vicinity of the site and 2 nr shallow scree slides to the south of the site have been discussed in detail and the same response is appropriate for the submissions of Pete Farrell, Brendan P. Gallagher, The Holey Soles Hillwalking Group, Rosemary Kerrigan, Kiltyclogher Community Council, Niall McEnroy, and Liam Murray on this point.

On a national scale, the events mentioned in submissions such as Derrybrien, Garvagh Glebe, Meenbog, and Shass Mountain have been taken account of. Lessons learned at Derrybrien have guided the planning and construction of wind farms in the intervening years. The recommendations from reports into Meenbog and Shass Mountain have been reviewed and guided the risk assessment carried out for the proposed development, for example the sensitivity analysis carried out as part of the deterministic analysis for cases of dried out and saturated peat and the setting of suspension of works rainfall trigger levels. Senator Nessa Cosgrove raises the concerns of the proposed development draining and drying out the peat – this situation will not prevail as there are no proposals for deep drainage and any peat excavated will be reinstated, for example around turbine bases or in borrow pits. There will not be a long term drying out of peat caused by the proposed development.

Senator Nessa Cosgrove, Cllr Eddie Mitchell, and Treasure Leitrim link excavation-induced karst dissolution to peat stability in their submissions. This is not a mechanism which has been explicitly assessed in the PSRA but the risk of excavation-induced karst dissolution is addressed in the "Karst" sub-section below. In summary, investigations and assessments on site have micro-sited infrastructure away from known karst features and shown that an extensive stream network in the area leads to short travel paths for surface water, suggesting that surface flow is the dominant flow regime in the area. Robust mitigations will be implemented during construction to further reduce risk of excavation-induced karst dissolution and a number of wind farm projects have been successfully constructed and are operational in areas of dolomitised limestone including three wind farms at Lisheen, Co. Tipperary.

Potential impacts outside the development boundary were raised in several submissions, including those of Leitrim County Council (addressed previously), the Department of Housing, Local Government and Heritage / DAU, Kiltyclogher Community Council, Fabian and Donna McMorro, and Liam Murray.

Fabian and Donna McMorro and Liam Murray's submissions refer to potential landslide occurrences on Saddle Hill and the potential runout impacting residential properties and the R282 road. Turbines T2 and T3 and their associated access roads are on Saddle Hill, as are two mapped landslide events we take account of in the PSRA. Following the application of mitigations such as improving upslope drainage and the provision of excavation supports, we note that both the qualitative and deterministic peat stability risk assessments find the proposed developments on Saddle Hill have a "low" risk of causing any peat movement. The volume of peat which could mobilise from Saddle Hill is limited due to the presence of former

turf banks, the presence of shallow bedrock, and existing surface erosion from grazing activities, and the potential run out distance is limited by the topography and grade changes at the foot of Saddle Hill, justifying the “low” risk rating assigned to the proposed developments on Saddle Hill. The mapped landslides mentioned in the submission are relatively minor events, with runout distances of up to 220 m determined from mapping. Fabian and Donna McMorro’s submission refers to a distance of approximately 200 m, which is understood to be measured to the foot of Saddle Hill. Measured to the redline boundary the separation between the proposed development and the property is approximately 550 m, with the final 200 m between the foot of Saddle Hill and the McMorro residence being of low-gradient ground. The R282 is at least 700 m from the redline boundary, with a low-gradient area of 350 m separating the road from the foot of Saddle Hill.

Following from the large number of submissions relating to peat stability and karst risk, the Applicant engaged Conor O’Donnell of AGL to undertake a review of the EIAR and associated reports and planning documents for the Lissinagroagh Wind Farm and to carry out an independent assessment of the potential impact of the proposed development on peat stability on the site and to review the karst risk on the project. The following text presents his findings in relation to peat stability. The full note prepared by Mr O’Donnell which includes details of Mr O’Donnell’s relevant experience and scope of the review is attached in Appendix C.

“Having reviewed the relevant information on the project details, ground and groundwater conditions, spoil management and peat stability I would make the following observations:

- In general, I would consider that the site of the proposed project would be classified as having a relatively low risk of peat instability which is restricted to localised areas at the centre and north end of the site where the main peat deposits are located. This is because:
 - Most of the project is located on the lower slopes of Dough Mountain where there is a discontinuous cover of shallow, vegetated, relatively dry peat that is well drained with an extensive network of existing streams originating in the steeper upper slopes.
 - The GSI subsoils map in Figure 7-7 of the EIAR indicates that majority of the project is located in areas where the subsoils are categorised as sandstone glacial till rather than peat. The sections in blanket bog are limited to two localised areas at the central and northern end of the project, i.e.:
- Turbines T7 and T8 and a section of the access track between them at the centre of the site; and
- The area around Turbines T2, T3 and Borrow Pit 1 on Saddle Hill at the north end of the site.
 - The ground investigation information in Appendix 2-6A to 2-6C of the EIAR also indicates that the depth of peat is generally shallow across the project area, typically <0.5-1.5 m, with zones of deeper peat up to 2.5-3.5 m limited to the north end of the site between Turbines T1 and T3 on Saddle Hill, and in localised areas along the access tracks and at crane hardstanding areas elsewhere on the site (e.g. Turbines T5 & T8). This is illustrated on the peat depth map in Appendix 1 of the Peat Stability Risk Assessment (PSRA) report in Appendix 7-1 of the EIAR.

- All the trial pits in the shallow peat <1.5 m were stable. Hand vanes carried out in the peat recorded high undrained shear strengths >15-20kPa, and water contents recorded in laboratory classification tests were low for peat at 250-500%. All of this confirms that the areas of shallow peat on the site are dry and well drained with a very low risk of peat instability related to the wind farm project.
- The Geological Survey of Ireland (GSI) landslide susceptibility map shown on Figure 9 of the PSRA report in Appendix 7-1 of the EIAR shows that the majority of the site is located in zones of Low or Moderately Low landslide susceptibility.
- Although there are sections of the project that are in areas of Moderately High landslide susceptibility, the methodology that is used in the GSI classification system is heavily weighted by topography. Therefore, they are in areas of steep terrain where the cover of peat is either locally absent on scree slopes, or limited to a shallow cover of dry vegetated peat where the risk of peat instability would be low and limited to localised shallow small-scale erosional peat slides can occur naturally during periods of heavy rainfall and typically have a low impact.
- Based on studies of peat failures on other wind farms on upland blanket bogs in Ireland, the risk of larger scale peat slides typically occurs where there is a cover of relatively deep peat >2 m deep where there is a convex breaking slope (i.e. where the slope gets steeper downslope) at the boundary between zones of Low to Moderately Low or Moderately High landslide susceptibility directly upslope from a watercourse. Where sections of the Lissinagroagh Wind Farm project are located in areas of deeper peat at the boundary of the Moderately High and High susceptibility zones on the site, they are at the base of the steeper slopes where the concave profile is inherently more stable (i.e. the slope gradients reduce downslope from the windfarm).
- Section 3.5 and Figure 8 of the PSRA in Appendix 7-1 of the EIAR identifies 5 No. historic landslides in peat at the northern end of the site that are recorded on the GSI database. A further 2 No. historic landslides in scree are recorded on the steep southern slopes of Dough Mountain. The landslides in peat are described on the GSI database as *shallow landslides in blanket peat*. They all occurred on relatively steep slopes in areas of Moderately High susceptibility on undeveloped blanket bog remote to the forestry roads, conifer plantations and existing wind farm infrastructure in the area. They are likely to have occurred naturally as erosional peat slides during periods of heavy or sustained rainfall due to concentrated groundwater flow in more permeable mineral soils, scree or weathered rock below the peat. Aerial photographs of Dough Mountain show scars of numerous similar erosional features on the steep slopes on the north side of the mountain. These are part of the natural erosion process on the land and would have similar characteristics to the two landslides in the scree slopes on the south side of the mountain that are also recorded on the GSI database. All the peat slides on the GSI database around the project area are localised and contained within a short runout distance on the lower slopes so that the impact of the slides would be characterised as low.
- Although the peat slides recorded on the GSI database in this area indicate that there is potential for localised shallow peat slides to occur naturally under similar



conditions within the project area, this risk can be adequately mitigated for the wind farm project with a suitably designed drainage system to intercept and divert clean surface runoff, and to collect groundwater flow along the access roads, turbines and crane hardstandings, with controlled dispersed runoff points, check dams and settlement ponds to prevent a buildup of groundwater in the granular rockfill, as proposed. A suitably designed drainage system would reduce the risk to very low for the proposed project.

- Based on the desk study and ground investigation information presented in the EIAR the risk of peat failures should be limited to those areas of locally deeper peat >1.5 m between Turbines T1 and T3 at the northern end of the site, and locally along sections of the access roads and turbine hardstandings near Turbines T4, T5 & T8 in the centre of the site. In the shallow peat <1.5 m the risk should be limited to shallow erosional peat slides under uncontrolled drainage conditions.
- Based on my review of the proposed geotechnical design of the civil engineering works for the windfarm in Chapter 2 of the EIAR (Project Description), including the Peat and Spoil Management Plan in Appendix 2-1 and the related drawings in the Planning Documents, I would consider that there are significant design and construction mitigation measures incorporated into the proposed works that would significantly reduce the risk of a peat failure so that the risk should be low, i.e.:
 - It is not proposed to construct any floating roads on the peat. All the new site access tracks will be comprised of a suitable thickness of compacted rockfill constructed directly on competent glacial till or rock below the peat. These will exert negligible load on the peat and will also improve overall site stability where they act as a barrage to support peat directly upslope from the roads.
 - Similarly, all the peat and soft clay will be excavated out from under the crane hardstandings, turbine foundations, site compounds and substation sites to support the crushed rock hardstanding areas and reinforced concrete foundations on the underlying competent glacial till and bedrock with negligible loading on the peat.
 - None of the excavated peat or mineral soil will be sidecast on the peat slopes. Most of the excavated peat and surplus mineral soil will be placed in the 3 No. designated bunded borrow pit storage areas where it will be fully contained by the glacial till and rock slopes below ground level within deep cells inside the borrow pit. This is the most secure way of storing very soft excavated peat. A small volume of dry peat will be spread on the glacial till at the south end of the site for landscaping.
 - The peat and spoil management plan in Appendix 2-1 of the EIAR has taken account of the construction programme constraints that will need to be managed to sequence the requirements for generating rockfill from the borrow pits to construct the access roads and hardstanding areas, while creating capacity to store peat as it is excavated from the central and northern areas of the site where most of the peat is expected to be encountered. 3 No. borrow pits are proposed along the length of the project area and they will be developed in a phased sequence, as required. The borrow pits have also been designed with sufficient capacity to store the estimated volume of peat and surplus mineral soil that will be excavated from the site.



- The drainage design includes comprehensive standard details for upslope interceptor drains and downslope collector drains along the access tracks and crane hardstanding areas, with regular outfalls, check dams and settlement ponds to effectively manage the collection and controlled discharge of surface runoff and to prevent an accumulation of groundwater in the granular rockfill to prevent downslope peat instability from concentrated groundwater seepage and hydrostatic pressures during periods of heavy rainfall.
- I would consider that the proposed earthworks and drainage design for the wind farm in the EIAR and supporting documents incorporates standard details that can be developed into the detailed design to effectively mitigate the risk of peat instability during construction. It is proposed to carry out supplemental ground investigations on the site to develop the design where required, which is standard practice, and construction of the wind farm will be supervised by a suitably qualified geotechnical engineer to ensure that peat stability is effectively managed on site.
- Furthermore, the general design details that have been proposed in the EIAR are the primary mitigation measures that reduce the risk of peat instability to low or very low. The assessment is not reliant on the proposed supplemental investigations during the detailed design stage, or the monitoring and emergency response procedures that will be implemented during construction. These are standard operating procedures that represent standard practice for developing the detailed design of the project, and for managing the low to very low residual risk during construction, which is also a health and safety consideration”.

2.2.91 Impacts on Water Quality from Landslides

Concern was raised in relation to potential impacts on water quality caused by landslides. Meenbog and other peat landslide areas are mentioned in the submissions. Concern was raised in relation to T3.

In response, landslides and peat slippages can cause significant impacts on downstream water quality, and in the event that they reach streams and rivers this can be particularly impactful to aquatic ecology (as per the slippage at the Meenbog Wind Farm).

As described in EIAR Chapter 7 (Land, Soils and Geology) of the EIAR, the site is partially underlain by peat deposits, however conditions do not pose significant landslide risks. The majority of the northern portion of the site is mapped as blanket peat, with the southern section of the site dominated by till derived from Namurian sandstone and shales. Site investigations undertaken within the proposed wind farm site indicate that peat depths vary from 0.1 m to 4.5 m in the north and 0.1 m to 1.8 m in the south. The peat depth across all probe locations was 0.7 m on average (50%ile of 0.6m). This is likely an overestimate or skewed as probing was focused on areas with peat. A total of 433 peat depths were recorded on the site. A statistical summary is included below in Table 7-6, Chapter 7 of the EIAR.

The geohazards are therefore of low sensitivity based on the Peat Stability Risk Assessment (PSRA). The PSRA is included in Appendix 7-1. The geotechnical mitigation techniques which may be incorporated include barriers/supports between excavations and any potentially unstable peat (e.g. granular berm or sheet piles), with long-term stability ensured by backfilling

around turbine foundations to existing ground level following construction. All turbine base locations and substation footprint are mapped as having 'Low' landslide susceptibility, except for T3, T4, T5, T7 and T8 turbine base locations mapped as having 'Low to Moderately High' landslide susceptibility. Mitigation measures are included in section 7.5, Chapter 7 and the PSRA Appendix 7.1. In relation to a specific query on T3, peat is present in part of the footprint however the area is limited due to the presence of former turf banks, the presence of shallow bedrock and existing surface erosion from grazing activities.

Considering the above and information provided in the EIAR, it is not anticipated that landslides would pose any significant threat to water quality. EIAR Chapter 7 (Land, Soils and Geology) of the EIAR confirmed there would be no significant effects.

It is stated that a number of landslides had occurred on site. These are described and discussed in the PSRA and further discussion is provided in the preceding section of this response, under "Peat Stability Risk Assessment". In summary, the reported peat slides outside the application boundary were investigated and fed into the peat stability risk assessment procedure. No infrastructure is proposed for areas covered in scree which are subject to localised instability.

2.2.92 Karst

A large number of queries were made in relation to karst and variability in karst. It was stated that in a karst landscape, it is not enough to rely on broad desktop assessment or generic mitigation. The submissions seek a site-specific hydrogeological assessment, clear explanations as to how GSI datasets were used, a defined buffer assessment of known karst features and targeted geophysical investigation where appropriate to evaluate subsurface risk. Concerns raised in relation to collapse of swallow holes. It is suggested that there is a 'seven room' cave system on Saddle Hill however the location is not presented/verified.

Desktop surveys including review of topography were undertaken and these were used to supported by field surveys. Karst was identified on site based on the desktop surveys and walkover surveys. As stated in Chapter 7 of the EIAR, walkover surveys of the proposed wind farm site were carried out in order to identify hydrological features e.g., wet ground, drainage patterns and distribution, exposures and drains etc. A total of 13 walkovers were undertaken of the proposed wind farm site, GCR works areas and TDR accommodations to review the ground conditions and assess the topography and geomorphology. These were carried out in October 2020, July 2021, October 2021, December 2021, January 2022, October 2022, July 2022, June 2024, December 2024, January 2025, April 2025, May 2025, July 2025 and November 2025.

Intrusive ground investigations (GI) were undertaken by specialist sub-consultants Ground Investigations Ireland (GII) and Causeway Geotech in a phased manner during 2021, 2024 and 2025. The objectives of the investigations were to determine the subsurface conditions at the proposed wind farm site including the distribution and depth of mineral soils and peat at key development locations. This data was used to inform the final layout design and the full GI reports can be located in EIAR Appendix 2-6 (A-C) Site Investigation Reports.

Following the field surveys, the results were reviewed using GIS software in conjunction with publicly available hydrological and hydrogeological data from the Geological Survey of Ireland (GSI), Environmental Protection Agency (EPA) and Office of Public Works (OPW).



No karst was recorded on the proposed turbine footprint and the localised nature of turbine foundations and associated works, combined with the absence of significant abstractions nearby, limits the potential for significant effects. No evidence of a cave system was noted from either LiDAR data or during field walkovers on Saddle Hill. No cave system was identified either during the specialist ecological habitat surveys or bat surveys.

In relation to T3 and karst, the turbine layout was chosen to avoid karst features and no karst features are present within the footprint. The karst location appears to relate to an area outside of the footprint.

While the area is partially karstified, the presence of the extensive stream network in the area highlights the short groundwater travel paths and that surface flow is the dominant flow regime in the area. A number of submissions were made in relation to karst tracing. A preliminary karst tracing exercise was completed between 11 and 13 November 2024. Unbrightened cotton detectors were used to collect and concentrate optical brighteners for subsequent ultraviolet analysis. The brightener compound adsorbs onto the cotton fibres. After exposure, the cotton wool can be examined under an ultraviolet (UV) light. Because optical brighteners absorb UV light and re-emit it as visible blue or white light, the cotton will fluoresce brightly if optical brighteners are present, providing a clear visual confirmation. Based on the presence of extensive surface water features on the site groundwater discharges to local streams, flow in the groundwater is estimated as 0.02 to 0.06 m/s, based on the site tracing, which is typical of the groundwater flow in karst areas. Surface water flows which are the dominant flow regime are in the order of 0.5 m/s.

Engineering large structures in karst landscapes has become a relatively common occurrence in Ireland where over 50% of the bedrock is prone to karstification (i.e. either Limestone or Gypsum). For example, large motorway bridges have been safely constructed in more active karst landscapes (Madden and O'Hara, 2016, Rutty & Jennings, 2012). A number of wind farm projects have been successfully constructed and are operational in areas of dolomitised limestone including three wind farms at Lisheen, Co. Tipperary.

Mitigations are outlined in EIAR Chapter 7 Soils and Geology, EIAR Volume III, Appendix 2-4 Construction and Environmental Plan CEMP and below which will be implemented at detailed design stage to reduce the karst risk.

A karst protocol will be employed during construction and involves a series of steps and methodologies in karst areas. An example of the karst feature inspection protocol is documented by Madden & O'Hara (2016)⁶⁰. Ground stabilisation measures that will be employed include compaction, grouting/stabilisation, geotextile or utilising raft foundations where required. Where weathered limestone or karst is encountered at formation level, the feature will be mapped in detail. Each feature and associated mitigation measure will be documented and included in safety file for the proposed project. The stabilisation measures will be approved by a geotechnical engineer. Where infilling or grouting is required, works will be supervised by a suitably qualified hydrogeologist to ensure there is no effect on groundwater.

⁶⁰ Madden and Hara (2016) The treatment of karst features encountered during road construction in County Galway



Where infilling or grouting in karst areas is required, works will be supervised by a suitably qualified hydrogeologist to ensure there is no effect on groundwater. The feature is excavated, and then backfilled with specific materials (e.g., boulders, cobbles) to form a stable foundation. The feature is then typically sealed from the excavation using a liner (like a geotextile or concrete) to prevent runoff or spilled materials from entering it. The foundation construction will be supervised by a qualified hydrogeologist.

Potential interactions from construction activities at the wind farm are limited to indirect pathways, such as temporary changes in runoff, sediment mobilisation, or localised shallow-groundwater disturbance, as no works occur within the lake basin, swallow hole zone, or direct karst pathways. These effects would be localised to the site and attenuated over distance, resulting in a low magnitude of impact. Consequently, the overall significance of potential construction-phase effects is classified as not significant, short-term, and unlikely.

Following from the large number of submissions relating to peat stability and karst risk, the Applicant engaged Conor O'Donnell of AGL to undertake a review of the EIAR and associated reports and planning documents for the Lissinagroagh Wind Farm and to carry out an independent assessment of the potential impact of the proposed development on peat stability on the site and to review the karst risk on the project. The following text presents his findings in relation to karst risk. The full note prepared by Mr O'Donnell which includes details of Mr O'Donnell's relevant experience and scope of the review is attached in Appendix C.

- 'I have also reviewed the potential impact of karstification in the underlying limestone bedrock on the project. The Karst Assessment report in Appendix 7-2 gives a summary of the assessment that has been carried out and the mitigation measures that will be implemented at detailed design and constructions stage of the project. I note that:
 - A comprehensive review of possible karst features in the project area has been carried out by experienced personnel involving numerous site walkover surveys and a desk study review of aerial photographs and LiDAR surveys.
 - A total of 71 No. features or possible karst features were identified across the site, none of which had been identified on the GSI karst database. The layout of the features is shown on Figure 7-14 of the EIAR. They are largely comprised of dolines (shallow surface depressions) with some swallow holes.
 - The layout of the turbines, substation and met mast was designed with a min. 30 m buffer from the dolines and 100 m from the swallow holes, which would be the primary risk for the turbines, access roads and hardstanding areas. Only 4 No. features are located within a larger 250 m buffer from the turbines. The alignment of the site access roads has also been designed to avoid almost all the mapped features.
 - A rotary corehole was carried out at Turbine T7 to assess the risk of karstification in the underlying Limestone bedrock. This turbine is closest to the swallow holes that were identified at the centre of the site. However, there was no evidence of karstification in the underlying bedrock with 100% recovery in good quality moderately to slightly weathered Limestone bedrock, and no records of cavities, voids or loss of drilling fluid in the corehole.

- Based on the desk study, walkover surveys and ground investigation the proposed wind farm site has been classified as having a low to medium karst risk. It has also been concluded that the extensive network of streams on the site indicate that the site hydrology/hydrogeology is characterised by overland flow of surface runoff rather than by a network of subterranean streams or diffuse flow through open fissures, caves and cavities in a karstified aquifer.
 - Supplemental ground investigations and inspections will be carried out during the detailed design stage of the project to further characterise and mitigate the karst risk on the project. This will involve rotary coreholes at each of the turbines to characterise the strength and quality of the rock and to assess the potential for active karst features that could impact the design of the turbine foundations. A karst feature inspection protocol that was developed for the M18 Gort to Tuam motorway scheme will be adopted to inspect and mitigate any active karst features along the access roads or at crane hardstandings. Investigations involving trial pits, dynamic probes and geophysical surveys will be used to assess the risk of karstification in the overburden and underlying Limestone bedrock.
 - Where necessary the reinforced concrete foundations for the turbines will be modified to mitigate the risk of karstification in the Limestone bedrock, which could include designing the pad foundations to span over cavities in the rock, controlled grouting with low mobility grout to fill open fissures or voids, or bored piles with casing to support the turbines in competent rock below zones of cavities or highly weathered, non-intact or highly fractured weak karstified rock. This work will be supervised by an experienced hydrogeologist to ensure that it does not adversely impact the underlying karst aquifer.
 - Effective design solutions will also be implemented where karst features are encountered along the access roads and at the crane hardstandings which could involve a combination of geogrid reinforcement and/or excavation of disturbed soil to be backfilled with layers of rockfill grading progressively coarser with depth to form a stable filter over cavities or voids in the underlying rock that preserves the existing hydrogeology.
- Having reviewed the karst risk assessment in the EIAR, I would consider that:
 - A comprehensive assessment of possible karst features in the project area has been undertaken by experienced personnel by site walkovers and relevant desk study information on bedrock geology, topography and aerial photographs.
 - The site classification of low to medium karst risk is consistent with the information presented in the EIAR and the bedrock geology in the project area. It is likely that the assessment of the number of karst features is conservative and that some of the dolines are not active karst features.
 - I would also agree that the extensive network of streams on the site indicate that the site hydrology/hydrogeology is characterised by overland flow of surface runoff rather than by a network of subterranean streams and diffuse flow along open fissures, caves and cavities in a karstified aquifer.

- The good quality rock that was encountered in the rotary corehole at Turbine T7, which is closest to the swallow holes at the centre of the site, demonstrates how open karst features can be quite localised and not necessarily connected to an extensive network of underground caves or open fissures.
- The proposed methodology for further assessment and mitigation of the karst risk by supplemental investigations at detailed design stage and by inspections during construction is consistent with current design practice and can comprehensively mitigate the karst risk at the specific locations of the turbines, crane hardstandings, substation and site access roads across the site.
- The proposed methods for mitigating the impact of karst features that are identified by supplemental investigation and inspection during the detailed design and construction stage of the project are consistent with current practice for large civil, building and infrastructure developments in areas of karstified limestone in Ireland – even in areas of active karst features in more developed karstified bedrock aquifers, where the karst risk would be classified as High.
- The proposed methods for mitigating the impact of karst features by design are also consistent with current practice in Ireland. The geotextile and reverse filter rockfill designs proposed for the access tracks and hardstanding areas have been developed for road schemes in Ireland to minimise the impact on the underlying karst aquifer by spanning over voids while preserving the existing hydrogeology with a stable permeable rockfill. The methods for constructing the turbine foundations - by spanning over voids, by grouting to fill small cavities or open fissures with low mobility grout, or by bored pile foundations with casing to support the turbines in competent rock below zones of cavities or highly weathered, non-intact or highly fractured weak karstified rock - can be adapted to the conditions encountered to provide adequate support to the turbines while minimising any impact on the bedrock aquifer. All these designs have been successfully implemented in sensitive active mature karst environments in Ireland.'

2.2.93 Dough Mountain Geological Heritage

Concern was raised in relation to County Geological sites (CGS)/ Geological Heritage Sites (GHS).

As set out in Section 7.4.1, the eastern section of the proposed wind farm site is within the Dough Mountain Geological Heritage Site (Site Code LM009). Turbines T5, T7, T8, T13 and T14 and borrow pit 2 are located within the mapped extent of Dough Mountain GHS however they occupy less than 1% of the overall Dough Mountain Geological Heritage Site. The potential impact relates to the localised loss of bedrock and/or geomorphological features at turbine bases, hardstands and sections of access track. As the proposed wind farm infrastructure is located away from the identified features, the magnitude of impact is assessed as low adverse due to the small portion of the designated site being physically affected, with the vast majority of the designated area and its key geological features remaining untouched and fully legible in the landscape. A number of higher sensitive locations (See Figure 3-2 of the EIAR) were not progressed in part based on geological sensitivity. Based on the high sensitivity and low adverse magnitude of impact, there is potential for slight (not significant) direct effects.

Opportunity exists to enhance access to bedrock exposures or other features in the Dough Mountain GHS, via internal road installations. The following measures proposed for the Dough Mountain GHS include:

- Continued consultation with the GSI including presentation of ground investigation data on request to assist GSI's data source; and
- Limiting excavation by only excavating the required footprint.

While many CGS are limited in terms of access to the private lands, areas within the proposed project may be accessible for geological heritage promotion post construction.

2.2.94 Soil/Sediment runoff and CEMP

A submission was made in relation to the Borrow pit and turbine excavation dewatering should explicitly detail silt and turbidity management strategies.

In response the dewatering of the foundations is detailed in EIAR Appendix 2-7 SWMP.

2.2.95 Dough Mountain Peat and pNHA

A number of submissions raised concerns in relation to Dough/Thur Mountain peatland NHA. The nearest infrastructure is 80 m from the Dough/Thur Mountain peatland NHA.

As previously stated, all peatland habitats within the proposed footprint are modified. The best practice guidance on assessing the impacts of developments on peatlands advise that a range of 30 m should be used to calculate indirect impacts of drainage on peatland hydrology, as outlined in Advising on peatland, carbon-rich soils and priority peatland habitats in development management (NatureScot, 2023). Therefore, no direct or indirect impacts on the hydrology of the peatland habitats within Dough/Thur Mountains NHA are anticipated due to the separation distances involved. Furthermore peat is not continuous between the Dough/ Thur Mountain peatland NHA and the infrastructure.

However, the proposed project includes lands within the Dough/Thur Mountain NHA which are scheduled for peatland rehabilitation/enhancement (See Chapter 5 and Appendix 6-13 Biodiversity Management Plan) to enhance the area for Hen Harrier. The peatland habitats within the proposed infrastructure footprint do not correspond to any Annex I peatland habitats.

It is proposed to enhance approximately 77.85 ha of the peatland habitat within the proposed wind farm site for hen harrier. Management of the peatland is set out in Section 3.2.2.2 of Appendix 6-13. Areas for improved peatland management include areas (Folio 13) within Torr/Dough Mountain NHA. The rehabilitation will follow guidance on drain blocking on peatlands listed 'Best Practice in Raised Bog Restoration in Ireland' (Mackin *et al.*, 2017)'.

2.2.96 Borrow Pits/Blasting

A submission was made raising concern on blasting at the Borrow pits.

Blasting is referenced in Chapter 9 however this has been ruled out based on the site investigation. Blasting is not required and extraction will be via rock breaking as assessed in the noise chapter. There are no potential significant effects on hydrogeology or hydrology as a result of the borrow pit excavation methods.

2.2.97 Concrete

A submission raised concerns about concrete heating up the bog.

In response the concrete will not heat up the bog. The cutover peat will be removed from the foundation area and used as part of the borrow pit restoration and landscaping on site. As there is no peat in contact with the concrete, there is no heat transfer to the bog. The heat generated during the construction phase is not significant, will quickly dissipate and will not affect the cutover peat in the surrounding area. There is no active blanket bog effected by the proposed development.

2.2.98 Hydrogeology and hydrology – groundwater flow

A number of queries were raised in relation to the wider area in relation to complex groundwater-driven flooding in a karst setting, and that the proposed foundations, tracks, drainage and excavation works may have consequences that are difficult to predict with confidence.

Many of the naturally-occurring streams have been modified by agricultural and forestry activities in the area. Streams and drainage channels were assessed and mapped during field surveys. This resulted in an update of the published EPA mapping at some locations, particularly in the southeastern part of the site. The updated mapping is used in the relevant figures in EIAR Chapter 8. The hydrological connectivity of the wind farm is certain with the presence of surface water both within and adjacent to the wind farm.

2.2.99 Flooding

A number of submissions raised concerns in relation flooding and about the increased levels of flooding on their property. It was stated that tree felling will increase flooding and that hardstands and roads are impermeable and will affect runoff.

A Flood Risk Assessment (FRA) was undertaken by TOBIN and is included as EIAR Appendix 8-4.

In terms of hydrological flows, the study area is low sensitivity as no elements of the proposed project are located in a flood zone i.e. Flood Zone A (1 in 100 yr flood) or B (1 in 1000 year flood).

Site-specific hydraulic modelling undertaken indicates limited fluvial flood risk. In the 100-year and 1000-year Current and MRFS scenarios, flood extents do not inundate any infrastructure.

The site is not at risk of coastal flooding due to its inland position. Surface water from the development will be managed through a SuDS-based drainage system—including check dams, interceptor drains and settlement ponds—limiting runoff to greenfield rates. Hardstanding areas will maintain existing flow paths to the adjacent waterbodies and the site topography will provide safe exceedance routes to prevent ponding during extreme events or drainage blockages. As a result, residual pluvial flood risk is considered negligible.

GSI mapping does not show groundwater flooding on the site, though there are karst features and groundwater related risks in the study area.

Surface waters will be managed in accordance with the SWMP. Surface water infrastructure will be maintained for the operational phase.

2.2.100 Groundwater supply queries

A number of queries were raised in relation to private wells and the potential for contamination. The site is not located in the Source Protection Zone for groundwater supplies.

The project design and mitigation ensures that there will be no contamination of private wells due to source controls, SWMP as well as setback from watercourses and private wells. All water within the proposed footprint will be controlled, treated, monitored and discharged within the proposed SuDS network. While some water infiltration to ground will occur following treatment, the main discharge pathway is the surface waters. It is proposed to control and treat any runoff as set out in EIAR Appendix 2-7 SWMP.

The main source of contamination for groundwater wells is local contamination from septic tanks and agriculture. These sources introduce harmful bacteria, viruses, and nitrates into groundwater, which can then enter poorly protected wells. The minimum recommended distance between a wastewater treatment system and well varies from 15 m to 60 m depending on the slope and soil type and is set out in the Code of Practice for new builds - Site suitability assessment⁶¹. The proposed development does not have a proposed septic tank and will not significantly alter agricultural practices.

2.2.101 WFD Status

One query was raised in relation to the good status of streams adjacent to the site. Sections 5.4.1.5, 5.5 and 5.6 of the Biodiversity Chapter and Section 8.4.3 of the Hydrology Chapter of the EIAR sets out the standards and guidance documents that will be adhered to for the protection of the aquatic and fishery environments so as to ensure no deterioration in ecological status of the receiving aquatic environment, as per the requirements of the WFD. As outlined in Appendix 5-4, no fish were encountered on the wind farm site with the exception of the Skreeny River. The status of the relevant streams and an assessment of the compliance with WFD requirements is fully set out in the EIAR Appendix 8-1 WFD Assessment Report.

As clear span bridges will be utilised, no instream works are proposed thereby avoiding the potential for hydromorphological effects. IFI will be consulted in advance in relation to all crossings of any watercourse. As set out in the Hydrology and Hydrogeology chapter of the EIAR, in addition to the standard water quality monitoring, confirmatory biological water quality assessment (Q-value methodology) and hydromorphological baseline (RHAT assessment) will be carried out at the proposed watercourse crossings within the wind farm site at preconstruction, during construction and post construction. The wind farm drainage and watercourse crossings design will ensure that natural flow paths are not interrupted or diverted. The baseline river hydromorphological condition will not be altered such that it would impact the derived WFD hydromorphology classification or inhibit the restoration to Good Status.

While the proposed development will occupy a small proportion of the proposed wind farm site, Sustainable Drainage Systems will be utilised to manage runoff during the construction,

⁶¹ <https://www.epa.ie/environment-and-you/drinking-water/faqs/>



operational and decommissioning phases. A Surface Water Management Plan (SWMP) has been submitted and can be found in Appendix 2-7 of the EIAR. This document contains methodology for drainage, water quality management and silt control. The proposed surface water drainage system utilises sustainable drainage devices and methods, incorporating the main components of Sustainable Drainage Systems (SuDS). A fundamental principle of the drainage design is that clean water flowing in the upstream catchment, including overland flow and flow in existing drains, is allowed to bypass the works areas without being contaminated by silt from the works. This will be achieved by intercepting the clean water and conveying it to the downstream side of the works areas.

The principle behind SuDS is to reduce the quantity of discharge from developments to predevelopment flows and to also improve the quality of runoff from proposed projects.

Taking into consideration the impacts of the proposed project on the biological, physicochemical and hydromorphological quality elements of the relevant waterbodies, it is concluded that, following the implementation of design and mitigation measures, it will not compromise progress towards achieving Good Ecological Status or cause a deterioration of the overall status of the water bodies that are in scope; it will not compromise the qualifying features of protected areas and is compliant with other relevant Directives. It can therefore be concluded that the proposed development is compliant with WFD.

2.2.102 SACs and Rossinver Fisheries

A number of submissions raised concerns in relation to potential hydrological effects on Lough Melvin and Lough Gill. Lough Melvin is the home to Rossinver Fisheries.

As stated in EIAR Section 8.1.2, the site of the proposed project is located approximately 3 km from the Northern Ireland border and part of the proposed wind farm is located within a river catchment (Drowes_010) that drains into Lough Melvin, with a connection to the surface water network and Lough Melvin over 5.8 km downstream. Lough Gill is hydrologically connected to the proposed wind farm site via the Owenmore (Manorhamilton)_020 and Brackary_010 rivers and associated tributaries. There is indirect hydrogeological connection via groundwater discharge to the Owenmore river.

All European sites with source-pathway-receptor links to the proposed project, inclusive of the survey area for the proposed wind farm site, GCR and TDR, were considered in the assessment of likely significant effects on European sites as outlined in detail in the Appropriate Assessment (AA) Screening Report, and the Natura Impact Statement (NIS). With the implementation of the measures outlined in Chapter 7 Hydrology and Hydrogeology there will be no residual significant effects on the SACs.

The proposed project is located in a sensitive catchment as outlined in the EIAR however the baseline environment is modified by farming, turbarry peat cutting, forestry and the existing Faughary Wind Farm. The measures outlined will help control sediment and discharge in a controlled manner. While peat is present on the site, it is mainly confined to the northern section of the site and is modified/drained. Much of the afforested peatland are shallow and comprise of second cycle forestry.

The introduction of measures to control and treat surface water runoff will have long term benefits in terms of water quality. It is proposed to enhance approximately 77.85 ha of the peatland habitat within the proposed wind farm site. Areas for improved peatland management include areas within Torr/Dough Mountain NHA.

2.2.103 Methane

One submission was made in relation to methane in groundwater.

The proposed development will not result in the generation of methane in the groundwater. There is no known pathway for the generation of methane in groundwater associated with the proposed project.

3. CONCLUSION

This Submissions Response document has been prepared to address the Lissinagroagh Wind Farm submissions made to ACP. The proposed wind farm will support the connection of 77-100.8 MW of renewable electricity to the national network. The proposed wind farm has the potential to produce 222,591 MWh to 291,393 MWh of electricity per year, which will be sufficient to supply the equivalent of 52,998 to 69,379 Irish households with electricity per year.

As noted within the submitted EIAR and Planning Statement, this project is needed to assist Ireland in achieving its renewable energy and climate targets. The current global energy emergency due to the recent wars in Eastern Europe and Middle East and the recent national Irish fuel protests also emphasise the need for Ireland to become more energy sustainable through renewable energy projects and a strengthened national grid.

APPENDIX A

Winter Bird Survey Report (2025/2026)

Winter Bird Survey Report 2025-2026

Lissinagroagh, Co. Leitrim





DOCUMENT DETAILS

Client: **FuturEnergy Ireland**

Project Title: **Lissinagroagh, Co. Leitrim**

Project Number: **200217-k**

Document Title: **Winter Bird Survey Report 2025-2026**

Document File Name: **Lissinagraogh Winter Bird Report 2025-26
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1.

EXECUTIVE SUMMARY

Ornithological surveys have been undertaken at Lissinagroagh, Co. Leitrim since 2017. This report outlines the findings from surveys completed during the 2025-2026 winter season. The following surveys were undertaken:

- > Vantage Point Survey
- > Winter Walkover Survey
- > Hen Harrier Roost Survey
- > Breeding Red Grouse Survey

The key finding recorded during winter season surveys comprises a regularly used roost site approximately 1.2km from the nearest proposed turbine. Up to two hen harrier were observed roosting in an area of bog during four of the six months surveyed. Given the separation distance between the proposed turbines and the roost site, direct habitat loss or displacement from this roost is unlikely to be significant.

Based on the results of these surveys, potential impacts resulting from the proposed development for local avian receptors could include habitat loss, disturbance displacement and collision risk. There is a resident population of kestrel, meadow pipit, red grouse, snipe, woodcock, buzzard and sparrowhawk at the site, with breeding territories identified for red grouse, snipe and sparrowhawk.

There were no specific ornithological constraints identified during this survey period.

2.

INTRODUCTION

2.1

Background

MKO was appointed to carry out ornithological surveys at Lissinagroagh, Co. Leitrim (hereafter 'the site') for the 2025-2026 winter season. This report describes the survey methods and findings for the period from October 2025 to March 2026 inclusive. The site was surveyed previously during the following seasons:

- > 2017-2018 winter season,
- > 2018 breeding season,
- > 2018-2019 winter season,
- > 2019 breeding season,
- > 2020 breeding season,
- > 2020-2021 winter season,
- > 2021 breeding season,
- > 2021-2022 winter season,
- > 2022 breeding season,
- > 2023 breeding season,
- > 2024 breeding season, and
- > 2025 breeding season.

Please see the relevant end of season reports for full details of the survey methods and results from these survey periods.

The key observations at the site relate to breeding hen harrier within and surrounding the site.

2.2

Site Description

The site is located north of Manorhamilton (Grid Ref: X 591484.00 Y 842226.00). The dominant habitats on site are forestry, upland blanket bog and rough grassland. The wider surroundings are predominantly upland blanket bog, rough grassland, forestry, and improved agricultural grassland.

2.3

Statement of Authority

This report has been prepared by Patrick Manley (BSc, MCIEEM), Senior Ornithologist of MKO, and reviewed by Dervla O'Dowd (BSc), Ecologist. Both are suitably qualified ecologists with experience in completing avifaunal assessments and competent experts for the purposes of the preparation of this report, following NatureScot (2025) and CIEEM (2017) ecological reporting guidelines. Field surveys were undertaken by Andrew O'Donoghue, Cillian Murphy, Joss Glenn, Niall McHugh and Robert Vaughan. The surveyors are suitably qualified competent experts in the field of ornithological surveying.

3.

METHODOLOGY

Field surveys were undertaken from October 2025 to March 2026 inclusive. Based on the results of a desk study and reconnaissance visits, the assemblage of bird species in the site and the likely importance of the site for these species was ascertained. A list of 'target species' likely to occur at the site was compiled. The list was drawn from:

- Species listed on Annex I of the EU Birds Directive.
- Special Conservation Interests (SCI) of Special Protection Areas (SPA) within the zone of likely significant effects.
- Red listed Birds of Conservation Concern in Ireland (BoCCI).
- Raptors and species that are particularly sensitive to wind farm developments.

Then, adopting a precautionary approach, a site-specific scope for ornithological surveys was devised. These were specifically designed to survey for the target species. In the absence of specific national bird survey guidelines, the ornithological surveys were designed and undertaken in full accordance with the guidance document 'Recommended bird survey methods to inform impact assessment of onshore wind farms' (NatureScot, 2025). The various ornithological surveys undertaken at the site and hinterland are described in detail below. Survey effort, including dates, times and details on weather conditions are presented in Appendix 1.

3.1

Vantage Point Surveys

Vantage point surveys record the distribution and abundance of flight activity to understand flight patterns at the site and inform a collision risk analysis¹. Vantage point surveys were undertaken in accordance with NatureScot (2025) to monitor flight activity within the site and to a 500m radius of the potential turbine positions. Surveys were conducted from five fixed point vantage points with comprehensive coverage of the site. The vantage point locations were selected by undertaking a viewshed analysis and confirmed by a reconnaissance visit and initial field surveys to ensure that the proposed turbine layout was entirely covered.

The survey methodology followed NatureScot (2025). The surveyor collected data on bird observations and flight activity from the scanning arc of 180° to a 2km radius at the fixed vantage point locations for two 3-hour watches separated by a minimum 30-minute break (i.e. 6 hours total) per month. Surveys were conducted from October to March inclusive and were scheduled to provide a minimum of 36 hours over the relevant winter season and spread over the full daylight period, including dawn and dusk watches, to coincide with the highest periods of bird activity.

Flight activity of target species was mapped and recorded within defined flight bands which were chosen in relation to the dimensions of potential turbine models for the site. Bands were split into 0-10m, 10-25m, 25-175m and >175m bands. All flight activity within height band 25-175m is considered to be within the Potential Collision Height (PCH) with regard to the turbine swept area. In addition, the presence of any non-target species were recorded to inform the evaluation of supporting habitat.

3.2

Winter Walkover Surveys

Winter walkover surveys were undertaken to record the presence of bird species within the study area² to a 500m radius, including areas between vantage point locations. The methodology was adapted from the breeding walkover methodology outlined in Brown and Shepherd (1993) and Calladine *et al.* (2009), combined with Common Bird Census methods (British Trust for Ornithology, 2021). Winter walkover surveys were conducted in daylight hours over four visits between October and March.

¹ A collision risk analysis is a method to predict the number of bird collisions that might be caused by a wind turbine.

² The study area refers to the area within a 500m radius of the proposed turbines.

Transect routes were walked across different habitat complexes within the survey area where access allowed. All target species were recorded and mapped. In addition, the presence of any non-target species was recorded to inform the evaluation of supporting habitat.

3.3 Hen Harrier Roost Surveys

Hen harrier roost surveys were undertaken within the study area and to a 2km radius. These surveys aimed to identify active winter hen harrier roosts near or within the site. Survey methodology followed Gilbert *et al.* (1998) and O'Donoghue (2019). Each hen harrier vantage point was surveyed once per month during the winter season between October and March inclusive.

Roost watches of 2-3 hours were conducted at four hen harrier vantage point locations from dusk until last visible light. All hen harrier observations were recorded and mapped.

3.4 Breeding Red Grouse Surveys

Breeding red grouse surveys were undertaken within the study area and to a 500m radius. The aim of the survey was to identify breeding red grouse territories within the site by using an auditory lure of a recording of a 'rival' red grouse male to elicit a response from the territory holder within the survey area. The survey methodology followed Cummins *et al.* (2010). The survey was conducted in March 2026, and all surveys were conducted under National Parks and Wildlife Service licence (licence no. 011/2026).

The surveyor walked transects 150m apart through suitable bog and heath habitat, where access allowed, stopping every 100m to broadcast lure calls for 30 seconds and listening for responses. Call-back and flying by the territory holder in response to the lure were recorded and mapped.

3.5 Survey Limitations

A comprehensive suite of bird surveys was undertaken at the site between October 2025 and March 2026. Results from winter season 2025-2026 are derived from a continuous six months of surveying undertaken in accordance with best practice guidance, NatureScot (2025). The survey duration and scope are considered entirely satisfactory for the purpose of characterising the bird activity present at the site over survey period.

4.

RESULTS

The following bird species were recorded during the survey period. The list is ordered in accordance with conservation significance: Annex I species, SCIs of designated sites, Red-listed species and raptors or other species sensitive to wind farm developments:

- > Golden Plover (Annex I & BoCCI Red List)
- > Hen Harrier (Annex I)
- > Peregrine Falcon (Annex I & SCI of the Sligo/Leitrim Uplands SPA)
- > Merlin (Annex I)
- > White-tailed Eagle (Annex I & BoCCI Red List)
- > Whooper Swan (Annex I)
- > Kestrel (BoCCI Red List)
- > Meadow Pipit (BoCCI Red List)
- > Red Grouse (BoCCI Red List)
- > Redwing (BoCCI Red List)
- > Snipe (BoCCI Red List)
- > Woodcock (BoCCI Red List)
- > Buzzard (raptor)
- > Sparrowhawk (raptor)

The following sections describe the target species recorded during surveys, as well as incidental records. Raw data is presented in Appendix 2. Ecologically sensitive information, such as breeding territories and roosts, are presented in Confidential Appendix 3, and should not be publicly distributed.

4.1.1

Summary

Table 4-1 below provides a summary of target species' activity. Breeding status is assigned following BTO breeding status codes according to the evidence obtained during the surveys.

Table 4-1 Species summary

Species	Summary
Golden Plover	Flocks of up to 64 birds were observed. There were no regularly used roosting or foraging areas identified.
Hen Harrier	A regularly used roost site was identified 650m north of the study area, please see Confidential Appendix 3 for further details.
Merlin	Individuals were observed, however there were no activities of note observed.
Peregrine Falcon	Individuals were observed, however there were no activities of note observed.
White-tailed Eagle	Up to two birds were observed, however there were no activities of note observed.
Whooper Swan	Flocks of up to 30 birds were observed, all of which were during the migration period in March.
Kestrel	Individuals were observed, however there were no activities of note observed.
Meadow Pipit	Flocks of up to 38 birds were observed, and probable breeding territories were identified in March.
Red Grouse	Probable breeding to the north and east of the study area.
Redwing	Flocks of up to 35 were observed, however there were no activities of note observed.
Snipe	Probable breeding to the east of the study area.
Woodcock	Individuals were observed, however there were no activities of note observed.
Buzzard	Individuals were observed, however there were no activities of note observed.
Long-eared Owl	Individuals were observed, however there were no activities of note observed.
Sparrowhawk	Probable breeding at three locations within the study area.

4.1.2

Vantage Point Surveys

Summary results from vantage point surveys are presented below in Table 4-2. These are discussed in further detail in Section 5 of this report.

Table 4-2 Vantage Point Survey Summary

Species	Total number of records	Frequency	Average and peak count per observation	Total number of Bird Seconds ³ at PCH	Activity of note (including months observed)
Golden Plover	4	1 observation ⁴ every 45 hours	Peak count: 64 Average count: 48	8,000	A flock of 64 birds observed on three occasions on the same day in November within the study area. An individual was also heard calling in January adjacent to the study area.
Hen Harrier	3	1 observation every 60 hours	1	0	All observations were of individuals hunting or commuting within the study area.
Merlin	3	1 observation every 60 hours	1	0	There were three observations of individuals commuting or hunting, one of which was partially within the study area.
Peregrine Falcon	2	1 observation every 90 hours	1	4	There were two observations of an immature bird within the study area on the same date in February.
White-tailed Eagle	1	1 observation every 180 hours	1	510	This observation was of an individual circling and being mobbed by a buzzard within the study area.
Whooper Swan	1	1 observation every 180 hours	18	360	There was an observation of 18 birds flying north adjacent to the study area in late March.
Kestrel	9	1 observation every 20 hours	1	715	All observations were of individuals hunting or commuting within, or adjacent to, the study area.
Meadow Pipit	13	1 observation every 14 hours	Peak count: 38 Average count: 14	0	Observations were of between 2 and 38 birds flying, calling or singing within, or adjacent to, the study area.
Red Grouse	1	1 observation every 180 hours	1	0	There was one observation of an individual calling to the east of the study area in January.
Redwing	4	1 observation every 45 hours	Peak count: 35 Average count: 13	350	Flocks of between 2 and 35 birds were observed commuting and calling within, and adjacent to, the study area.
Snipe	17	1 observation every 11 hours	Peak count: 2 Average count: 1	265	Observations were of one or two birds commuting or calling. Additionally, there were four observations of birds

³ Bird Seconds are the number of birds observed multiplied by the number of seconds the flock was observed for.

⁴ Please note this is observations not individuals, i.e. each observation could include a number of individuals.

Species	Total number of records	Frequency	Average and peak count per observation	Total number of Bird Seconds ^a at PCH	Activity of note (including months observed)
					drumming in March to the east of the study area, indicating probable breeding in this area.
Woodcock	3	1 observation every 60 hours	1	15	All observations were of individuals commuting, within, or partially within, the study area.
Buzzard	23	1 observation every 8 hours	1	1,469	Observations were of individuals commuting, circling or hunting. There was one observation of a buzzard mobbing a white-tailed eagle in March. The majority of observations were within the study area.
Sparrowhawk	8	1 observation every 23 hours	1	470	Most observations were of individuals commuting or circling. There were three observations of birds displaying in December and March, at three separate locations within the study area, indicating probable breeding at these locations.

4.1.3

Winter Walkover Surveys

Summary results from winter walkover surveys are presented below in Table 4-3. These are discussed in more detail in Section 5 of this report.

Table 4-3 Winter Walkover Survey Summary

Species	Total number of records	Frequency	Average and peak count per observation	Activity of note (including months observed)
Golden Plover	3	1 observation every 15 hours	Peak count: 62 Average count: 44	Observations were of between 30 and 62 birds commuting to the east of the study area.
Hen Harrier	4	1 observation every 11 hours	Peak count: 2 Average count: 1	Most observations were of individuals foraging. At the end of March two male birds were observed flying together, which may be an indication of breeding in the area.
White-tailed Eagle	1	1 observation every 44 hours	1	There was one observation of an individual soaring over the study area in March.
Kestrel	2	1 observation every 22 hours	1	Both observations were of an individual foraging within the study area in October and March.
Meadow Pipit	9	1 observations every 5 hours	Peak count: 22 Average count: 5	Observations were of between 1 and 22 birds commuting within, or adjacent to, the study area. There were two observations of birds displaying, indicating probable breeding in these areas.

Species	Total number of records	Frequency	Average and peak count per observation	Activity of note (including months observed)
Red Grouse	1	1 observation every 44 hours	1	There was one observation of an individual calling within the study area in October.
Redwing	1	1 observation every 44 hours	1	There was one observation of an individual foraging adjacent to the study area in November.
Snipe	5	1 observation every 9 hours	1	All observations were of individuals commuting or flushed by the observer between October and March. There were three observations within the study area.
Buzzard	2	1 observation every 22 hours	1	Both observations were of individuals soaring within the study area in January and March.
Sparrowhawk	3	1 observation every 15 hours	1	Observations were of individuals commuting, soaring or hunting within the study area. Observations were in January, February and March.

4.1.4 Hen Harrier Roost Surveys

Summary results from hen harrier roost surveys are presented below in Table 4-4 and discussed in more detail in Section 5 of this report.

Table 4-4 Hen Harrier Roost Survey Summary

Species	Total number of records	Frequency	Max. count per visit	Number of records within 500m of site	Activity of note (including months observed)	Roosting Status
Hen Harrier	8	1 observation every 4 visits	2	1	There were five observations of hen harrier roosting, in October, November, December and February in a bog north of the study area. There were up to two birds observed using this roost site.	There was one regularly used roost site identified, 650m from the study area.

4.1.5 Breeding Red Grouse Surveys

Summary results from breeding red grouse surveys are presented below in Table 4-5 and discussed in more detail in Section 5 of this report.

Table 4-5 Red Grouse Survey Summary

Species	Total number of records	Frequency	Max. count per visit	Number of records within 500m of site	Activity of note (including months observed)	Breeding Status
Red Grouse	9	More than 1 observation every hour	9	6	All observations were of males responding to the lure, indicating they are territorial birds.	Probable breeding to the north and east of the study area.

4.1.6

Incidental Records

Incidental records of target species during the survey period are detailed in Table 4-6. These are discussed in further detail in Section 5 of this report.

Table 4-6 Incidental Records

Species	Survey Type(s)	Number of records	Activity of note (including months observed)
Golden Plover	Breeding red grouse survey	1	This observation was of a flock of 75 birds at Dough Mountain, within the study area in March.
White-tailed Eagle	Vantage point survey	1	This observation was of two birds soaring and being mobbed by corvids at Leckenarainey, 5km west of the study area in October.
Whooper Swan	Hen harrier roost survey	1	This observation was of a flock of 30 birds migrating at Lough Melvin, 4km north of the study area in March.
Meadow Pipit	Hen harrier roost survey; winter walkover survey	3	Observations were of between one and seven birds commuting in November and March.
Red Grouse	Winter walkover survey	1	Droppings were found at Saddle Hill, within the study area, in October.
Redwing	Hen harrier roost survey	2	Observations were of 12 and 14 birds commuting in November and March.
Snipe	Hen harrier roost survey; vantage point survey	3	Observations were of between one and two birds commuting, calling or flushed in December, February and March.
Woodcock	Hen harrier roost survey; vantage point survey	8	All observations were of individuals commuting or flushed in November and March, five of which were within the study area.
Buzzard	Hen harrier roost survey; vantage point survey	5	Observations were of individuals commuting, soaring or perched in February, one of which was within the study area.
Long-eared Owl	Vantage point survey	1	This observation was of an individual hunting adjacent to the study area in March.
Sparrowhawk	Hen harrier roost survey	2	Observations were of individuals soaring and gliding in January and March, adjacent to the study area.

5.

DISCUSSION

Ornithological surveys were conducted at the site during the 2025-2026 winter season. Impacts resulting from the proposed development on local avian receptors could include habitat loss, disturbance, displacement and collision risk.

The key observations during surveys related to a regularly used roost site approximately 1.2km from the nearest proposed turbine. Up to two birds were observed roosting in an area of bog during four of the six months surveyed. Please see Confidential Appendix 3, Figure 6 for the roost location. Given the separation distance between the proposed turbines and the roost site, direct habitat loss or displacement from this roost is unlikely to be significant.

There is a resident population of kestrel, meadow pipit, red grouse, snipe, woodcock, buzzard and sparrowhawk at the site, with breeding territories identified for red grouse, snipe and sparrowhawk. See Confidential Appendix 3 for location details. There is the potential for habitat loss, disturbance, displacement and collision risk for these species as they were regularly observed within, and adjacent to, the site.

Golden plover, merlin, peregrine falcon, white-tailed eagle, whooper swan, redwing and long-eared owl were all recorded infrequently and/or in low numbers.

6.

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APPENDIX 1

SURVEY EFFORT

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Table 1 Survey Effort

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
07/10/2025	Vantage Point Survey	VP3	3:00 starting at 13:30	Visibility: moderate; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
07/10/2025	Vantage Point Survey	VP3	3:00 starting at 17:00	Visibility: moderate; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
07/10/2025	Winter Walkover Survey	T2	2:00 starting at 14:50	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
07/10/2025	Hen Harrier Roost Survey	hhvp4	2:00 starting at 17:20	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
09/10/2025	Winter Walkover Survey	T1	2:00 starting at 15:10	Visibility: limited; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
09/10/2025	Hen Harrier Roost Survey	hhvp5	2:00 starting at 17:20	Visibility: limited; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
14/10/2025	Vantage Point Survey	vp4a	2:00 starting at 14:50	Visibility: limited; Wind speed and direction: light air S; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	no observations	AOD
14/10/2025	Hen Harrier Roost Survey	hhvp1	2:00 starting at 17:10	Visibility: limited; Wind speed and direction: light air S; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		AOD
15/10/2025	Winter Walkover Survey	T4	3:00 starting at 14:00	Visibility: limited; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		AOD
15/10/2025	Hen Harrier Roost Survey	hhvp2	2:00 starting at 17:10	Visibility: limited; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		AOD
17/10/2025	Vantage Point Survey	VP5	3:00 starting at 13:00	Visibility: good; Wind speed and direction: gentle breeze SSE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
17/10/2025	Vantage Point Survey	VP5	3:00 starting at 16:30	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
20/10/2025	Vantage Point Survey	VP4a	2:00 starting at 15:00	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM
20/10/2025	Vantage Point Survey	VP4a	2:00 starting at 17:30	Visibility: limited; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		CM

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
23/10/2025	Winter Walkover Survey	T3	3:00 starting at 13:50	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		AOD
23/10/2025	Hen Harrier Roost Survey	hhvp1	2:00 starting at 16:50	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		AOD
28/10/2025	Vantage Point Survey	VP2	3:00 starting at 11:40	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 3% >500m; Rain: light showers; Frost: none; Snow: none		RV
28/10/2025	Vantage Point Survey	VP2	3:00 starting at 15:10	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 3% >500m; Rain: drizzle; Frost: none; Snow: none	Wind and rain easing, fog/mist over lower valley below VP for last hour	RV
29/10/2025	Vantage Point Survey	VP1	3:00 starting at 11:40	Visibility: good; Wind speed and direction: gentle breeze WNW; Cloud cover and height: 3% >500m; Rain: light showers; Frost: none; Snow: none		RV
29/10/2025	Vantage Point Survey	VP1	3:00 starting at 15:10	Visibility: good; Wind speed and direction: gentle breeze WNW; Cloud cover and height: 2% >500m; Rain: none; Frost: none; Snow: none		RV
10/11/2025	Vantage Point Survey	VP1	3:00 starting at 06:50	Visibility: none; Wind speed and direction: gentle breeze WNW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		RV
10/11/2025	Vantage Point Survey	VP1	3:00 starting at 10:20	Visibility: good; Wind speed and direction: light breeze WSW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		RV
12/11/2025	Vantage Point Survey	VP4a	3:00 starting at 06:50	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		RV
12/11/2025	Vantage Point Survey	VP4a	3:00 starting at 10:20	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		RV
13/11/2025	Winter Walkover Survey	T2	2:00 starting at 13:00	Visibility: limited; Wind speed and direction: moderate breeze N; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
13/11/2025	Hen Harrier Roost Survey	hhvp3	2:00 starting at 15:10	Visibility: limited; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
14/11/2025	Winter Walkover Survey	T2 T1	4:00 starting at 10:30	Visibility: good; Wind speed and direction: moderate breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
14/11/2025	Hen Harrier Roost Survey	hhvp2	2:00 starting at 15:05	Visibility: good; Wind speed and direction: strong breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
18/11/2025	Vantage Point Survey	VP2	3:00 starting at 07:05	Visibility: good; Wind speed and direction: gentle breeze WNW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		RV

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
18/11/2025	Vantage Point Survey	VP2	3:00 starting at 10:35	Visibility: moderate; Wind speed and direction: moderate breeze WNW; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		RV
18/11/2025	Vantage Point Survey	VP5	3:00 starting at 07:05	Visibility: good; Wind speed and direction: light air WNW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		RV
18/11/2025	Vantage Point Survey	VP5	3:00 starting at 10:35	Visibility: good; Wind speed and direction: light breeze WNW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: falling		RV
18/11/2025	Winter Walkover Survey	T3	2:00 starting at 13:50	Visibility: good; Wind speed and direction: strong breeze SE; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		AOD
18/11/2025	Hen Harrier Roost Survey	hhvp1	1:00 starting at 15:55	Visibility: good; Wind speed and direction: strong breeze SE; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		AOD
26/11/2025	Winter Walkover Survey	T4	3:00 starting at 11:50	Visibility: limited; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
26/11/2025	Hen Harrier Roost Survey	hhvp4	2:00 starting at 14:55	Visibility: limited; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
27/11/2025	Vantage Point Survey	VP3	3:00 starting at 07:15	Visibility: moderate; Wind speed and direction: fresh breeze SSW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	Misty patches.	JG
27/11/2025	Vantage Point Survey	VP3	1:00 starting at 10:45	Visibility: moderate; Wind speed and direction: fresh breeze SSW; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none	Very wet and windy.	JG
27/11/2025	Vantage Point Survey	VP3	2:00 starting at 11:45	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		JG
07/12/2025	Vantage Point Survey	VP4a	3:00 starting at 10:55	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 3% 150-500m; Rain: drizzle; Frost: none; Snow: none		RV
07/12/2025	Vantage Point Survey	VP4a	3:00 starting at 14:25	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 3% 150-500m; Rain: none; Frost: none; Snow: none		RV
08/12/2025	Hen Harrier Roost Survey	HHVP3	2:15 starting at 14:40	Visibility: moderate; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none	No hen harrier observed.	CM
13/12/2025	Vantage Point Survey	VP3	3:00 starting at 10:55	Visibility: good; Wind speed and direction: fresh breeze S; Cloud cover and height: 3% 150-500m; Rain: none; Frost: none; Snow: none	Strong wind, some drizzle	RV
13/12/2025	Vantage Point Survey	VP3	3:00 starting at 14:25	Visibility: good; Wind speed and direction: fresh breeze SSW; Cloud cover and height: 3% 150-500m; Rain: none; Frost: none; Snow: none		RV

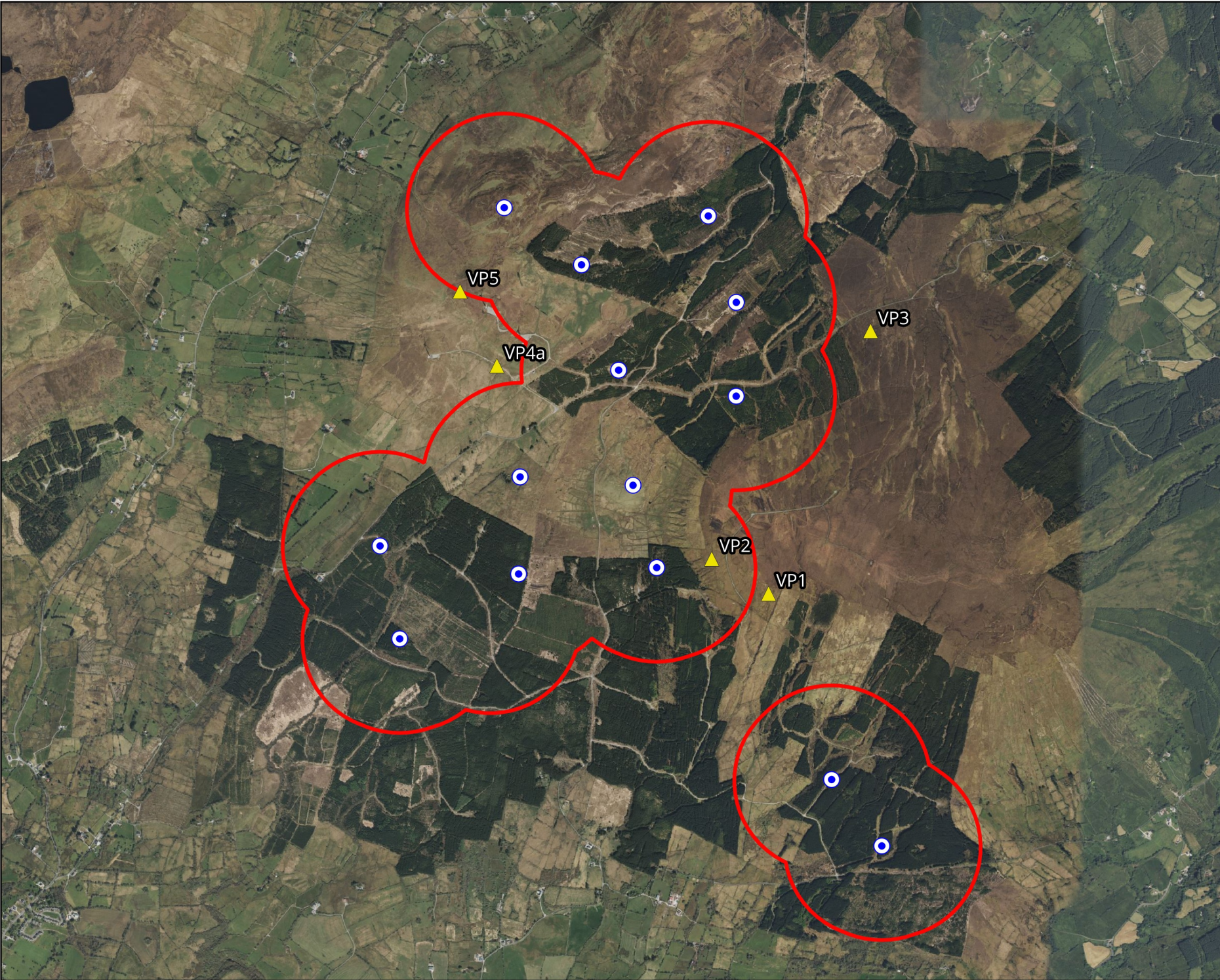
Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
16/12/2025	Vantage Point Survey	VP1	3:00 starting at 10:50	Visibility: good; Wind speed and direction: light breeze SSW; Cloud cover and height: 1% >500m; Rain: none; Frost: none; Snow: none		RV
16/12/2025	Vantage Point Survey	VP1	3:00 starting at 14:20	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 1% >500m; Rain: none; Frost: none; Snow: none		RV
16/12/2025	Hen Harrier Roost Survey	hhvp1	2:00 starting at 14:45	Visibility: good; Wind speed and direction: light air SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: heavy; Snow: none		AOD
22/12/2025	Hen Harrier Roost Survey	HHVP4	2:25 starting at 14:40	Visibility: moderate; Wind speed and direction: light air SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	No hen harrier observed.	CM
22/12/2025	Vantage Point Survey	VP5	3:00 starting at 10:55	Visibility: moderate; Wind speed and direction: gentle breeze E; Cloud cover and height: 3% 150-500m; Rain: drizzle; Frost: none; Snow: none		RV
22/12/2025	Vantage Point Survey	VP5	3:00 starting at 14:25	Visibility: moderate; Wind speed and direction: gentle breeze ESE; Cloud cover and height: 3% 150-500m; Rain: none; Frost: none; Snow: none		RV
30/12/2025	Vantage Point Survey	VP2	3:00 starting at 11:00	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 3% >500m; Rain: none; Frost: none; Snow: none		RV
30/12/2025	Vantage Point Survey	VP2	3:00 starting at 14:30	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 3% >500m; Rain: none; Frost: none; Snow: none		RV
12/01/2026	Hen Harrier Roost Survey	hhvp3	2:00 starting at 15:00	Visibility: moderate; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	no observations	AOD
17/01/2026	Vantage Point Survey	VP4a	3:00 starting at 07:40	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 2% >500m; Rain: none; Frost: none; Snow: none		RV
17/01/2026	Vantage Point Survey	VP4a	3:00 starting at 11:10	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 3% 150-500m; Rain: none; Frost: none; Snow: none		RV
18/01/2026	Vantage Point Survey	VP5	3:00 starting at 07:40	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 3% >500m; Rain: none; Frost: none; Snow: none		RV
18/01/2026	Vantage Point Survey	VP5	3:00 starting at 11:10	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 3% 150-500m; Rain: none; Frost: none; Snow: none		RV
19/01/2026	Vantage Point Survey	VP3	3:00 starting at 07:40	Visibility: poor; Wind speed and direction: light breeze WNW; Cloud cover and height: 3% <150m; Rain: drizzle; Frost: none; Snow: none		RV
19/01/2026	Vantage Point Survey	VP3	3:00 starting at 11:10	Visibility: moderate; Wind speed and direction: light breeze WNW; Cloud cover and height: 3% 150-500m; Rain: light showers; Frost: none; Snow: none		RV

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
20/01/2026	Vantage Point Survey	VP2	3:00 starting at 07:48	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: heavy showers; Frost: none; Snow: none		CM
20/01/2026	Vantage Point Survey	VP2	3:00 starting at 11:25	Visibility: poor; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% >500m; Rain: persistent; Frost: none; Snow: none		CM
23/01/2026	Vantage Point Survey	VP1	3:00 starting at 07:40	Visibility: limited; Wind speed and direction: gentle breeze E; Cloud cover and height: 33-66% <150m; Rain: drizzle; Frost: none; Snow: none		CM
23/01/2026	Vantage Point Survey	VP1	3:00 starting at 11:20	Visibility: moderate; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
28/01/2026	Hen Harrier Roost Survey	HHVP4	2:25 starting at 15:40	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
30/01/2026	Winter Walkover Survey	t2	4:00 starting at 11:20	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
30/01/2026	Hen Harrier Roost Survey	hhvp1	2:15 starting at 15:30	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	no observations	AOD
04/02/2026	Hen Harrier Roost Survey	hhvp3	2:00 starting at 15:50	Visibility: moderate; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
06/02/2026	Winter Walkover Survey	t3	3:00 starting at 08:50	Visibility: limited; Wind speed and direction: fresh breeze NE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
06/02/2026	Winter Walkover Survey	t1	2:00 starting at 12:15	Visibility: poor; Wind speed and direction: fresh breeze NE; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		AOD
12/02/2026	Winter Walkover Survey	t4	3:00 starting at 13:20	Visibility: limited; Wind speed and direction: moderate breeze NE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
12/02/2026	Hen Harrier Roost Survey	hhvp1	2:00 starting at 16:20	Visibility: limited; Wind speed and direction: fresh breeze NE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
14/02/2026	Vantage Point Survey	VP2	3:00 starting at 12:15	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 3% >500m; Rain: none; Frost: light; Snow: on ground		RV
14/02/2026	Vantage Point Survey	VP2	3:00 starting at 15:45	Visibility: limited; Wind speed and direction: fresh breeze S; Cloud cover and height: 3% <150m; Rain: none; Frost: light; Snow: falling	Limited visibility for much of second 3 hours due to snow	RV
16/02/2026	Hen Harrier Roost Survey	hhvp2	2:00 starting at 16:15	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
17/02/2026	Vantage Point Survey	VP1	3:00 starting at 12:25	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 2% >500m; Rain: none; Frost: none; Snow: none		RV

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
17/02/2026	Vantage Point Survey	VP1	3:00 starting at 15:55	Visibility: good; Wind speed and direction: gentle breeze ESE; Cloud cover and height: 3% >500m; Rain: none; Frost: none; Snow: none		RV
19/02/2026	Vantage Point Survey	VP3	3:00 starting at 12:10	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	Persistent blustery showers coming and going, easing gradually. 3 - 7°C throughout	NM
19/02/2026	Vantage Point Survey	VP3	3:00 starting at 15:50	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none	Rain ceasing in mid-afternoon. Becoming bright with sunny spells in evening. Breeze with fresh gusts. Dusk survey. Sunset - 17:48	NM
20/02/2026	Vantage Point Survey	VP4a	3:00 starting at 12:10	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none	Mixed - sunny spells with scattered showers. Gusty breeze with fresh gusts	NM
20/02/2026	Vantage Point Survey	VP4a	3:00 starting at 15:50	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none	Cold in breeze, 3 - 7°C throughout. Dusk survey. Sunset - 17:50	NM
23/02/2026	Vantage Point Survey	VP5	3:00 starting at 12:25	Visibility: good; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	Light showers. Entirely grey and overcast.	NM
23/02/2026	Vantage Point Survey	VP5	3:00 starting at 15:55	Visibility: moderate; Wind speed and direction: moderate breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: none; Snow: none	Rain becoming persistent, visibility dropping. Dusk survey. Sunset - 17:56	NM
11/03/2026	Breeding Red Grouse Survey	T1	2:30 starting at 11:00	Visibility: moderate; Wind speed and direction: fresh breeze S; Cloud cover and height: 33-66% >500m; Rain: heavy showers; Frost: none; Snow: none		CM
11/03/2026	Breeding Red Grouse Survey	T2	2:30 starting at 14:30	Visibility: moderate; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
12/03/2026	Breeding Red Grouse Survey	T3 & 5	2:10 starting at 13:20	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: heavy showers; Frost: none; Snow: none	Walked T3 on the way to, and from T5. Combined.	CM
12/03/2026	Breeding Red Grouse Survey	T3 & 5	1:00 starting at 15:30	Visibility: poor; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% >500m; Rain: persistent; Frost: none; Snow: none	Period of strong wind and hail	CM

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
12/03/2026	Breeding Red Grouse Survey	T4	1:25 starting at 17:00	Visibility: moderate; Wind speed and direction: gentle breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
18/03/2026	Winter Walkover Survey	t2	3:00 starting at 13:30	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		AOD
18/03/2026	Hen Harrier Roost Survey	hhvp3	2:00 starting at 17:10	Visibility: good; Wind speed and direction: light air W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	no hen harrier observed	AOD
19/03/2026	Vantage Point Survey	VP1	3:00 starting at 05:40	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 1% >500m; Rain: none; Frost: none; Snow: none		RV
19/03/2026	Vantage Point Survey	VP1	3:00 starting at 09:10	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 1% >500m; Rain: none; Frost: none; Snow: none		RV
19/03/2026	Winter Walkover Survey	t4	3:00 starting at 13:20	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
19/03/2026	Hen Harrier Roost Survey	hhvp1	2:00 starting at 17:10	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	no hen harrier observed	AOD
20/03/2026	Vantage Point Survey	VP2	3:00 starting at 05:40	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 1% >500m; Rain: none; Frost: none; Snow: none		RV
20/03/2026	Vantage Point Survey	VP2	3:00 starting at 09:10	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 1% >500m; Rain: none; Frost: none; Snow: none		RV
21/03/2026	Vantage Point Survey	VP3	3:00 starting at 05:40	Visibility: good; Wind speed and direction: light air SW; Cloud cover and height: 1% >500m; Rain: none; Frost: none; Snow: none		RV
21/03/2026	Vantage Point Survey	VP3	3:00 starting at 09:10	Visibility: good; Wind speed and direction: light breeze SSW; Cloud cover and height: 1% >500m; Rain: none; Frost: none; Snow: none		RV
22/03/2026	Vantage Point Survey	VP4a	3:00 starting at 05:35	Visibility: limited; Wind speed and direction: light air SW; Cloud cover and height: 3% <150m; Rain: drizzle; Frost: none; Snow: none	Low cloud and drizzle, poor visibility	RV
22/03/2026	Vantage Point Survey	VP4a	3:00 starting at 09:05	Visibility: good; Wind speed and direction: light air NW; Cloud cover and height: 3% 150-500m; Rain: none; Frost: none; Snow: none		RV
23/03/2026	Hen Harrier Roost Survey	HHVP4	2:20 starting at 17:25	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		CM
27/03/2026	Hen Harrier Roost Survey	HHVP3	2:30 starting at 05:40	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		CM
27/03/2026	Winter Walkover Survey	t3	3:00 starting at 13:30	Visibility: good; Wind speed and direction: strong breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
27/03/2026	Winter Walkover Survey	t1	2:00 starting at 17:30	Visibility: good; Wind speed and direction: strong breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
28/03/2026	Vantage Point Survey	VP5	3:00 starting at 05:20	Visibility: moderate; Wind speed and direction: moderate breeze WNW; Cloud cover and height: 2% >500m; Rain: light showers; Frost: none; Snow: none		RV
28/03/2026	Vantage Point Survey	VP5	3:00 starting at 08:50	Visibility: good; Wind speed and direction: fresh breeze WNW; Cloud cover and height: 2% >500m; Rain: none; Frost: none; Snow: none		RV
30/03/2026	Hen Harrier Roost Survey	HHVP4	2:00 starting at 18:30	Visibility: poor; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	Poor visibility throughout entire survey, cloudy and misty.	JG
31/03/2026	Hen Harrier Roost Survey	HHVP1	2:25 starting at 18:40	Visibility: moderate; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
31/03/2026	Hen Harrier Roost Survey	HHVP2	2:05 starting at 06:30	Visibility: poor; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none	Same misty conditions as yesterday evening, alongside heavy showers.	JG



Map Legend

-  Study Area
-  Vantage Point Location
-  Proposed Turbine Location



Drawing Title
Vantage Point Survey Locations

Project Title
Lissinagroagh Wind Farm

Drawn By JvD	Checked By PM
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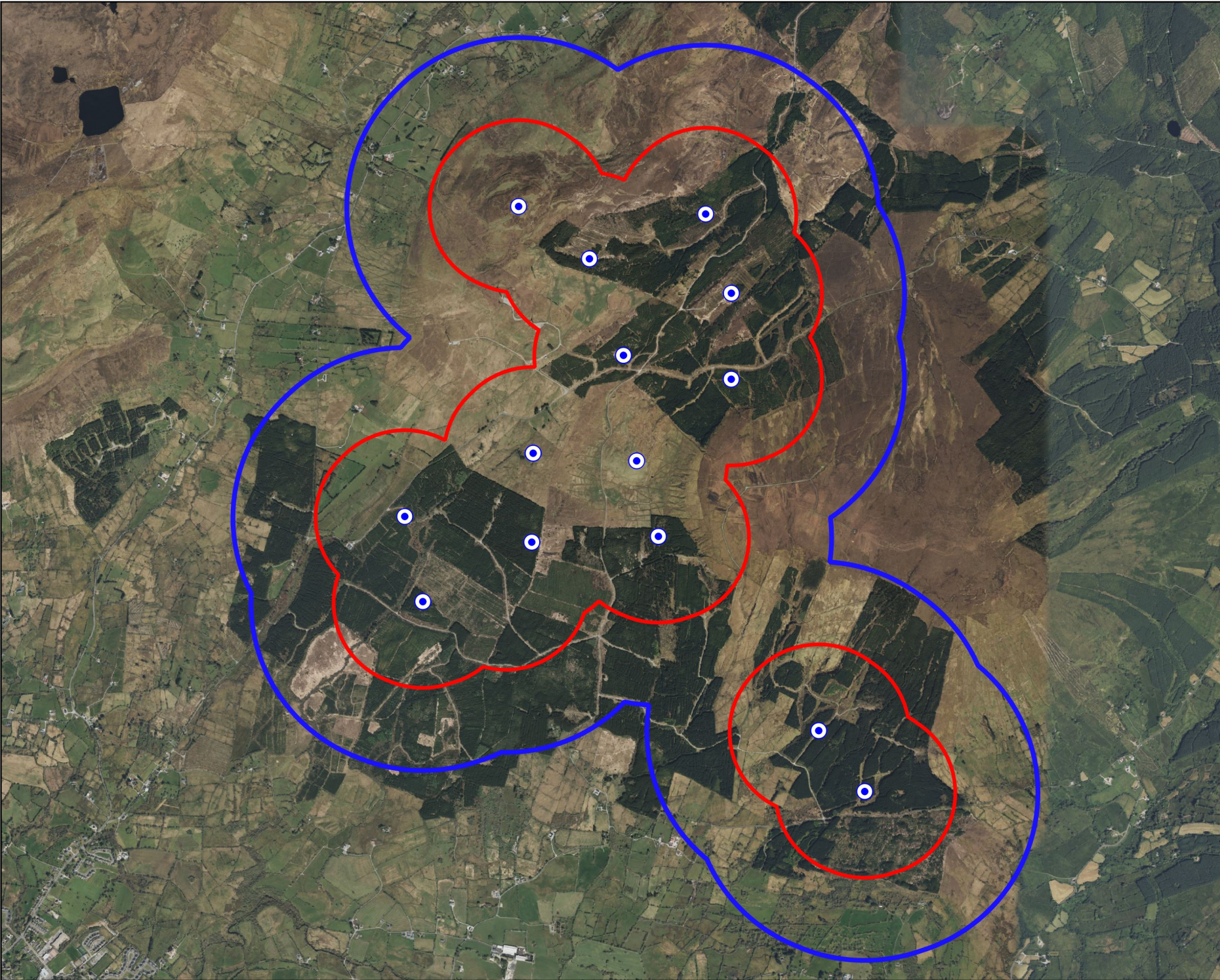
Project No. 200217-k	Drawing No. Fig. 1
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Scale 1:27,500	Date 13/03/2026
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Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location



Drawing Title
Winter Walkover Survey Area

Project Title
Lissinagroagh Wind Farm

Drawn By JvD	Checked By PM
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Project No. 200217-k	Drawing No. Fig. 2
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Scale 1:30,000	Date 13/03/2026
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Survey Location



Drawing Title
Hen Harrier Roost Survey Locations

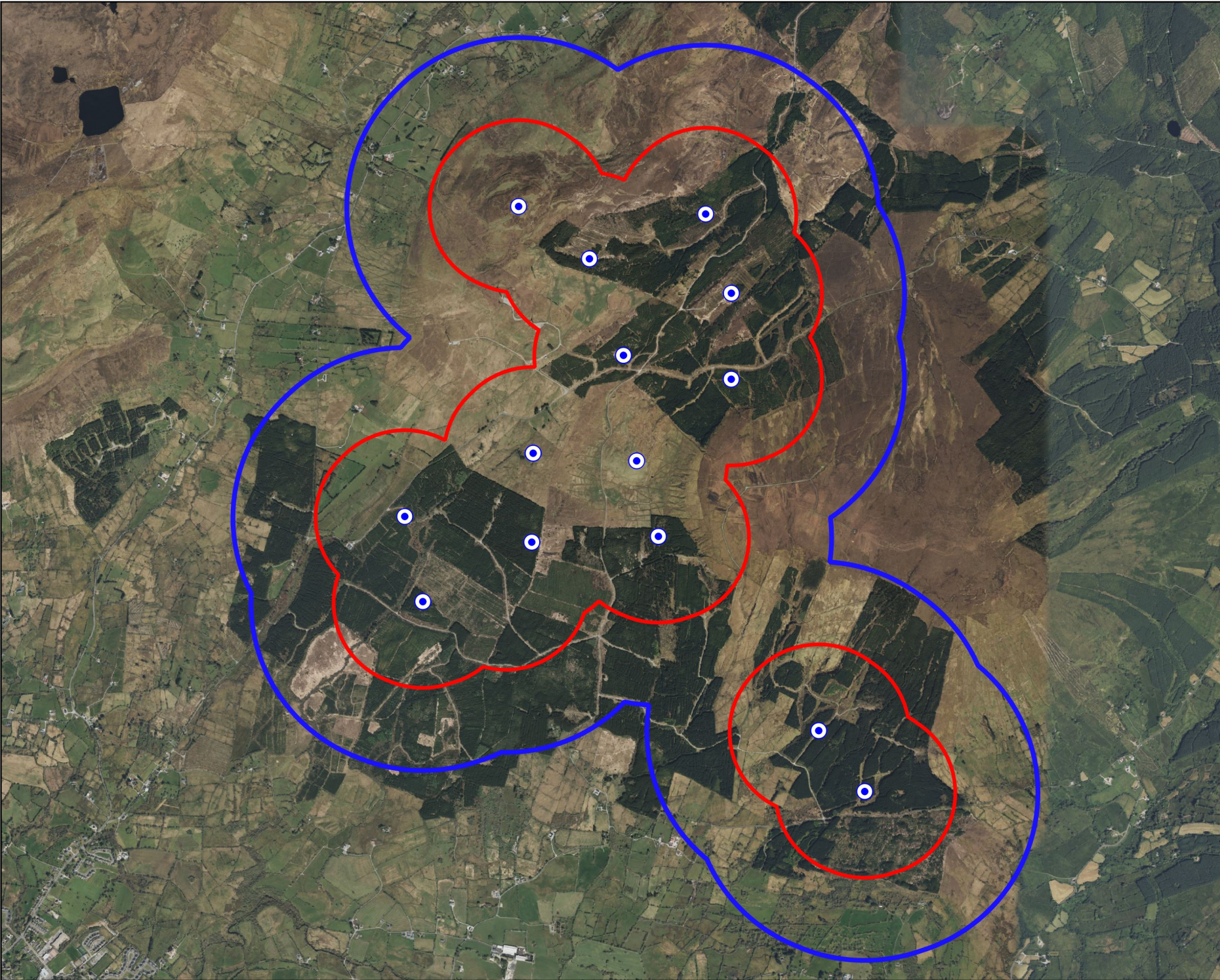
Project Title
Lissinagroagh Wind Farm

Drawn By JvD	Checked By PM
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Project No. 200217-k	Drawing No. Fig. 3
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Scale 1:35,000	Date 13/03/2026
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Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location



Drawing Title	
Breeding Red Grouse Survey Area	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 4
Scale	Date
1:30,000	13/03/2026
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APPENDIX 2

SURVEY DATA

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Table 1 Vantage Point Survey Data

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1	Band 2	Band 3	Band 4	Habitat and activity	Surveyor
MP001	VP3	07/10/2025	19:00	Meadow Pipit	21	-	-	-	-	-	bogs; flitting, total for six hour effort.	CM
SN001	VP3	07/10/2025	19:24	Snipe	1	-	-	-	-	-	bogs; calling, heard, not seen in low light	CM
SN002	VP3	07/10/2025	19:35	Snipe	2	-	-	-	-	-	bogs; calling, heard, not seen.	CM
MP002	VP5	17/10/2025	16:00	Meadow Pipit	17	-	-	-	-	-	bogs; flitting, total for three hour effort.	CM
MP003	VP5	17/10/2025	19:28	Meadow Pipit	7	-	-	-	-	-	bogs; flitting, total for three hour effort	CM
MP004	VP4a	20/10/2025	19:27	Meadow Pipit	11	-	-	-	-	-	improved agricultural grassland; flitting, total for four hour effort.	CM
SH001	VP2	28/10/2025	14:13	Sparrowhawk	1	17	0	17	0	0	improved agricultural grassland and eroding blanket bog; flying, juvenile male, flew along hillside, circled and south over vp	RV
MP005	VP2	28/10/2025	N/A	Meadow Pipit	4	-	-	-	-	-	Present	RV
ML001	VP1	29/10/2025	13:22	Merlin	1	7	7	0	0	0	eroding blanket bog and conifer plantation; flying, female or immature low past vp and over plantation	RV
BZ001	VP1	29/10/2025	13:56	Buzzard	1	85	0	85	0	0	improved agricultural grassland and conifer plantation; flying/circling, adult, circled and flew west over farmland and plantation	RV
RE001	VP1	29/10/2025	18:00	Redwing	2	-	-	-	-	-	Present	RV
MP006	VP1	29/10/2025	N/A	Meadow Pipit	6	-	-	-	-	-	Present	RV
SH002	VP1	10/11/2025	11:19	Sparrowhawk	1	35	0	35	0	0	conifer plantation; circling, male, circled from plantation mobbed by 2 hooded crow and flew below hill and lost to view	RV
SH003	VP1	10/11/2025	13:14	Sparrowhawk	1	12	12	0	0	0	cutover bog; flying/perched, male again, flew low and very briefly landed on post before continuing down hill and out of view	RV
RE002	VP1	11/11/2025	07:50	Redwing	5	-	-	-	-	-	cutover bog; calling, calling over vp around sunrise	RV
MP007	VP1	11/11/2025	13:20	Meadow Pipit	15	-	-	-	-	-	cutover bog; flying, along road near vp	RV
HH001	VP2	18/11/2025	08:45	Hen Harrier	1	8	8	0	0	0	cutover bog; flying, male flew se over vp toward vp1	RV
HH002	VP2	18/11/2025	08:51	Hen Harrier	1	39	36	3	0	0	cutover bog and improved agricultural grassland; hunting, male again, hunting over hillside below vp	RV

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1	Band 2	Band 3	Band 4	Habitat and activity	Surveyor
GP001	VP2	18/11/2025	11:13	Golden Plover	64	34	0	34	0	0	cutover bog; circling, 64 circling and calling over hilltop above vp	RV
GP002	VP2	18/11/2025	12:43	Golden Plover	64	165	0	55	110	0	cutover bog and improved agricultural grassland; circling, 64, counted from photographs, circling behind vp	RV
GP003	VP2	18/11/2025	13:11	Golden Plover	64	105	0	90	15	0	cutover bog; circling, 64 again, circling behind vp, calling, previously silent	RV
BZ002	VP5	19/11/2025	11:23	Buzzard	1	45	0	45	0	0	improved agricultural grassland; flying, possibly slipped up valley out of view behind hill, circled and continued north	RV
HH003	VP3	27/11/2025	09:26	Hen Harrier	1	127	65	62	0	0	cutover bog and conifer plantation; hunting, travelling, adult male, hunting across bog, then flew west over conifers.	JG
MP008	VP3	27/11/2025	13:23	Meadow Pipit	7	-	-	-	-	-	cutover bog; flying, singing	JG
SH004	VP4a	07/12/2025	00:00	Sparrowhawk	1	5	0	5	0	0	improved agricultural grassland and conifer plantation; flying, probably female, flew above road and into plantation, flushed fieldfare flock	RV
K.001	VP1	16/12/2025	12:37	Kestrel	1	11	3	9	0	0	cutover bog and conifer plantation; flying, male or immature, flew east in front of vp when 2 walkers appeared up track, grey wash in tail	RV
K.002	VP1	16/12/2025	00:00	Kestrel	1	255	0	15	240	0	cutover bog and conifer plantation; hunting, likely immature male as above, perched on top of pine for 36s, then began hunting over wide area moving east and lost beyond radio mast.	RV
BZ003	VP5	22/12/2025	00:00	Buzzard	1	135	0	0	135	0	cutover bog; hunting, circling and hanging in wind over hillside	RV
BZ004	VP5	22/12/2025	00:00	Buzzard	1	28	0	0	28	0	cutover bog; hunting, slowly drifting over hillside, watching below	RV
SH005	VP2	30/12/2025	00:00	Sparrowhawk	1	135	0	20	115	0	conifer plantation and mixed broadleaved/conifer woodland; circling/displaying, probably male, slowly circling, deep wingbeats	RV
SH006	VP2	30/12/2025	00:00	Sparrowhawk	1	4	4	0	0	0	cutover bog; flying, male flew low up hill past vp to road	RV

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1	Band 2	Band 3	Band 4	Habitat and activity	Surveyor
K.003	VP4a	17/01/2026	09:27	Kestrel	1	260	5	255	0	0	improved agricultural grassland and conifer plantation; hunting, male hunting over sheep fields below vp2	RV
K.004	VP4a	17/01/2026	00:00	Kestrel	1	145	0	145	0	0	improved agricultural grassland; hunting, male again, hunting similar area to earlier	RV
K.005	VP4a	17/01/2026	00:00	Kestrel	1	11	11	0	0	0	cutover bog and mixed broadleaved/conifer woodland; flying, male again, flew low behind vp and over hilltop	RV
SN003	VP5	18/01/2026	00:00	Snipe	1	4	4	0	0	0	cutover bog; flying, flushed from beside vp, flew down hill	RV
BZ005	VP5	18/01/2026	00:00	Buzzard	1	11	11	0	0	0	cutover bog; flying, adult buzzard low behind vp, mobbed by 2 hooded crows	RV
WK001	VP3	19/01/2026	07:20	Woodcock	1	2	2	0	0	0	conifer plantation; flying, flushed from side of road close to bridge	RV
RG001	VP3	19/01/2026	00:00	Red Grouse	1	-	-	-	-	-	cutover bog; calling, heard calling above vp at 08:27 and 08:33 in low cloud, not seen	RV
MP009	VP2	20/01/2026	14:20	Meadow Pipit	2	-	-	-	-	-	bogs; flitting, total for six hour effort.	CM
GP004	VP1	23/01/2026	10:30	Golden Plover	1	-	-	-	-	-	bogs; calling, heard, not observed	CM
MP010	VP1	23/01/2026	14:10	Meadow Pipit	3	-	-	-	-	-	bogs; flitting, total for six hour effort	CM
PE001	VP2	14/02/2026	00:00	Peregrine Falcon	1	13	0	9	4	0	eroding blanket bog; flying, immature bird, flew slowly over vp into wind	RV
PE002	VP2	14/02/2026	00:00	Peregrine Falcon	1	21	0	21	0	0	eroding blanket bog and conifer plantation; flying, immature bird again, slowly flying into strong wind	RV
K.006	VP2	14/02/2026	00:00	Kestrel	1	155	0	120	35	0	eroding blanket bog and conifer plantation; hunting, adult male, arrived from north, and hunted along hillside, continuing to south out of view	RV
BZ006	VP1	17/02/2026	13:19	Buzzard	1	135	0	60	75	0	improved agricultural grassland, scrub and treelines; circling, circled from small woodland and drifted east	RV
BZ007	VP1	17/02/2026	00:00	Buzzard	1	115	0	115	0	0	conifer plantation and scrub; circling, circled and remained low over plantation moving east and lost into clearing	RV
MP011	VP3	19/02/2026	12:30	Meadow Pipit	38	0	0	0	0	0	bogs, scrub/transitional woodland and highly modified/non-native woodland;	NM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1	Band 2	Band 3	Band 4	Habitat and activity	Surveyor
											flying, flitting, calling, perched, frequent flights and calls in area adjacent to vp, higher in evening. numbers rough	
SN004	VP3	19/02/2026	12:57	Snipe	1	30	0	0	30	0	bogs and mixed conifer woodland; travelling, calling	NM
K.007	VP3	19/02/2026	15:55	Kestrel	1	230	40	105	85	0	bogs and scrub/transitional woodland; hunting, hovering, swooping, male, hanging on breeze over moorland. swooping into forestry fringe	NM
SN005	VP3	19/02/2026	16:09	Snipe	1	20	0	0	20	0	bogs and highly modified/non-native woodland; flying, calling	NM
SN006	VP3	19/02/2026	16:49	Snipe	1	25	0	0	25	0	bogs, highly modified/non-native woodland and scrub/transitional woodland; travelling, calling	NM
ML002	VP3	19/02/2026	17:15	Merlin	1	130	115	15	0	0	bogs, mixed conifer woodland and scrub/transitional woodland; travelling, foraging, female. perching briefly along road below. lost in forestry edges	NM
SN007	VP3	19/02/2026	17:22	Snipe	1	35	0	15	20	0	bogs and highly modified/non-native woodland; flying, calling, swooping, lost over forestry	NM
SN008	VP3	19/02/2026	17:41	Snipe	2	40	0	10	30	0	bogs, highly modified/non-native woodland and scrub/transitional woodland; travelling, calling	NM
WK002	VP3	19/02/2026	17:57	Woodcock	1	20	0	20	0	0	conifer plantation and bogs; travelling, low across forestry at dusk	NM
SN009	VP3	19/02/2026	18:09	Snipe	1	15	0	5	10	0	bogs; travelling, calling, calling across bog in twilight	NM
WK003	VP3	19/02/2026	18:24	Woodcock	1	35	5	15	15	0	bogs and highly modified/non-native woodland; travelling, swooping, lost low across forestry	NM
BZ008	VP4a	20/02/2026	12:31	Buzzard	1	320	20	40	225	35	conifer plantation, bogs and improved agricultural grassland; soaring, circling, swooping, high over forestry to south, swooping and dropping	NM
MP012	VP4a	20/02/2026	12:40	Meadow Pipit	24	0	0	0	0	0	bogs and improved agricultural grassland; flying, calling, flitting, occasional flights and	NM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1	Band 2	Band 3	Band 4	Habitat and activity	Surveyor
											calls in area adjacent to vp, small groups and individuals. numbers rough	
LB001	VP4a	20/02/2026	13:17	Lesser Black-backed Gull	3	95	0	0	60	35	highly modified/non-native woodland and bogs; travelling, lost behind saddle hill	NM
BZ009	VP4a	20/02/2026	15:57	Buzzard	1	35	0	0	35	0	highly modified/non-native woodland and improved agricultural grassland; soaring, circling, lost abruptly	NM
K.008	VP4a	20/02/2026	16:47	Kestrel	1	630	60	290	350	0	bogs; hunting, hovering, male, present for ~10mins over moorland. dropping abruptly	NM
K.009	VP4a	20/02/2026	17:02	Kestrel	1	55	20	30	5	0	bogs and improved agricultural grassland; hunting, hovering, departing, swooping away downhill to southeast	NM
SN010	VP4a	20/02/2026	17:42	Snipe	1	35	0	10	25	0	bogs and improved agricultural grassland; travelling, calling	NM
SN011	VP4a	20/02/2026	17:48	Snipe	1	25	0	15	10	0	bogs, improved agricultural grassland and scrub/transitional woodland; travelling, calling, swooping, swooping down	NM
H.001	VP5	23/02/2026	12:50	Grey Heron	1	70	0	30	40	0	conifer plantation and improved agricultural grassland; travelling, calling, continuing south through vp4a viewshed	NM
MP013	VP5	23/02/2026	12:50	Meadow Pipit	26	0	0	0	0	0	bogs and scrub/transitional woodland; flying, calling, infrequent flights and calls in area adjacent to vp, small groups and individuals. numbers rough	NM
RE003	VP5	23/02/2026	13:26	Redwing	8	25	15	10	0	0	bogs and conifer plantation; travelling, calling, swooping, swooping into forestry fringe	NM
SN012	VP5	23/02/2026	13:47	Snipe	1	35	0	0	35	0	bogs and conifer plantation; travelling, calling	NM
BZ010	VP5	23/02/2026	14:58	Buzzard	1	130	0	20	35	75	improved agricultural grassland, linear woodland/scrub and scrub/transitional woodland; soaring, circling, swooping, gradually descending	NM
SN013	VP5	23/02/2026	16:59	Snipe	2	20	0	0	15	5	bogs and improved agricultural grassland; travelling, calling, lost behind terrain	NM
RE004	VP5	23/02/2026	17:18	Redwing	35	40	0	0	10	30	bogs; travelling, calling, with fieldfare, lost behind terrain	NM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1	Band 2	Band 3	Band 4	Habitat and activity	Surveyor
H.002	VP5	23/02/2026	18:16	Grey Heron	1	30	0	20	10	0	bogs and semi-natural grassland; travelling, moving west, lost in dusk gloom	NM
ML003	VP1	19/03/2026	07:16	Merlin	1	8	8	0	0	0	cutover bog and conifer plantation; flying, female flew low west below vp	RV
BZ011	VP1	19/03/2026	07:56	Buzzard	1	20	0	20	0	0	conifer plantation; flying, briefly circled and flew into plantation	RV
BZ012	VP1	19/03/2026	08:22	Buzzard	1	6	6	0	0	0	improved agricultural grassland and conifer plantation; flying, low across fields	RV
SH007	VP1	19/03/2026	10:11	Sparrowhawk	1	225	0	15	210	0	conifer plantation; displaying, male, slow, deep wingbeats and circled around radio mast area	RV
BZ013	VP1	19/03/2026	10:22	Buzzard	1	165	0	20	145	0	improved agricultural grassland and conifer plantation; circling, slowly circled and drifted northwest, lost behind hillside	RV
WS001	VP2	20/03/2026	09:32	Whooper Swan	18	20	0	0	20	0	improved agricultural grassland; flying, 18 whooper swans flew north from manorhamilton and continued north toward melvin, off site and on mapped area only for c. 20 seconds	RV
BZ014	VP2	20/03/2026	10:36	Buzzard	1	55	0	0	55	0	cutover bog; circling, circled from valley behind turbines, on mapped area only 55 s from 1038, drifted east	RV
BZ015	VP2	20/03/2026	10:55	Buzzard	1	9	0	4	5	0	conifer plantation and cutover bog; flying, dove from height from behind vp and into plantation, landed out of view	RV
BZ016	VP2	20/03/2026	11:06	Buzzard	1	4	0	4	0	0	conifer plantation; flying, flew deeper into plantation, low over treetops, landed out of view	RV
SN014	VP3	21/03/2026	05:40	Snipe	1						cutover bog; displaying, both 1 and 2 drumming over wide but distinct areas, not seen, both stopped at 0554	RV
SN015	VP3	21/03/2026	05:40	Snipe	1						cutover bog; displaying, both 1 and 2 drumming over wide but distinct areas, not seen, both stopped at 0554	RV
SN016	VP3	21/03/2026	05:40	Snipe	1						cutover bog; displaying, both 3 and 4 were stationary, chipping on ground, rough locations indicated. both stopped at 0554	RV

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1	Band 2	Band 3	Band 4	Habitat and activity	Surveyor
											also. possible 1 or 2 more heard in addition, all 4 were displaying from arrival at 530, and occasionally heard during vp, though not seen.	
SN017	VP3	21/03/2026	09:52	Snipe	1						cutover bog; displaying, both 3 and 4 were stationary, chipping on ground, rough locations indicated. both stopped at 0554 also. possible 1 or 2 more heard in addition, all 4 were displaying from arrival at 530, and occasionally heard during vp, though not seen.	RV
BZ017	VP3	21/03/2026	10:18	Buzzard	1	165		20	135	0	cutover bog and conifer plantation; circling, flying w-e and dropped into plantation	RV
SH008	VP3	21/03/2026	10:18	Sparrowhawk	1	165	0	20	145	0	conifer plantation; displaying, male circling and displaying over valley and dropped out of view into similar area	RV
WE001	VP3	21/03/2026	11:37	White-tailed Eagle	1	630	0	0	510	120	cutover bog and conifer plantation; circling, immature, red tag (?), circled and drifted north until lost in haze, mobbed by buzzard as it appeared from southwest of vp	RV
BZ018	VP3	21/03/2026	11:37	Buzzard	1	40	0	0	40	0	cutover bog and conifer plantation; mobbing, mobbed white-tailed eagle above before turning back southwest and I followed flight line of eagle	RV
LB002	VP4a	22/03/2026	09:27	Lesser Black-backed Gull	2	345	0	105	240	0	cutover bog and conifer plantation; circling/migrating, 2 adults flying north, then west and lost up next valley	RV
LB003	VP4a	22/03/2026	10:48	Lesser Black-backed Gull	7	460	0	70	390	0	conifer plantation; circling, 7 birds, all adults circled north into valley before turning south again, 5 continued south out of view after 285s, 2 returned circling north before flying se past vp2 towards vp1	RV
LB004	VP4a	22/03/2026	11:28	Lesser Black-backed Gull	6	310	0	0	310	0	conifer plantation, cutover bog and improved agricultural grassland; circling/migrating, 5 adult and 1 immature, flying n over site, continued northwest into next valley	RV

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1	Band 2	Band 3	Band 4	Habitat and activity	Surveyor
BZ019	VP4a	22/03/2026	11:38	Buzzard	1	85	0	0	0	85	conifer plantation, cutover bog and improved agricultural grassland; flying/migrating, adult migrating northwest across site high up, slow at first, gained speed as it went across valley, losing height slowly.	RV
LB005	VP4a	22/03/2026	11:38	Lesser Black-backed Gull	8	1620	0	0	1620	0	conifer plantation, cutover bog and improved agricultural grassland; circling, all appeared to be adults, circled and called high up over valley covering a wide area, still circling at end of vp	RV
BZ020	VP4a	22/03/2026	11:52	Buzzard	1	61	0	0	61	0	conifer plantation, cutover bog and improved agricultural grassland; flying/migrating, adult flying northwest through the flock of lesser black-backed gulls	RV
LB006	VP5	28/03/2026	06:00	Lesser Black-backed Gull	56	2400	1000	800	600	0	improved agricultural grassland; loafing, 56 in sheep fields, mostly appeared to be roosting, some arrived pre-dawn, but many appeared to have been present from start of survey. birds regularly disturbed and flew low before settling again. estimated flight time and heights given, only rarely did whole flock rise, present throughout survey.	RV
HG001	VP5	28/03/2026	06:00	Herring Gull	3	180	120	60			improved agricultural grassland; loafing, 3 adult in flock with lesser black-backed gull	RV
BZ021	VP5	28/03/2026	10:16	Buzzard	1	225	0	0	225	0	improved agricultural grassland; circling, adult circling with other buzzard, drifted south before moving back north	RV
BZ022	VP5	28/03/2026	10:16	Buzzard	1	105	0	0	105	0	improved agricultural grassland; circling, adult circling with previous buzzard above	RV
BZ023	VP5	28/03/2026	11:09	Buzzard	1	165	0	0	165	0	cutover bog; circling, circling high with several raven, glided east and out of view.	RV

Table 2 Winter Walkover Survey Data

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
HH001	14/10/2025	13:56	T2	Hen Harrier	1	upland blanket bog; foraging, female (wintering)	AOD
MP001	14/10/2025	14:11	T3	Meadow Pipit	22	upland blanket bog and upland blanket bog; flying (wintering)	AOD
MP002	14/10/2025	14:35	T3	Meadow Pipit	1	upland blanket bog; fly (wintering)	AOD
MP003	14/10/2025	15:40	T3	Meadow Pipit	3	upland blanket bog; fly (wintering)	AOD
HH002	15/10/2025	14:45	T4	Hen Harrier	1	upland blanket bog; foraging perched, male (wintering)	AOD
SN001	15/10/2025	14:46	T4	Snipe	1	upland blanket bog; flushed (wintering)	AOD
MP004	15/10/2025	14:52	T4	Meadow Pipit	2	conifer plantation; flying (wintering)	AOD
SN002	15/10/2025	15:16	T4	Snipe	1	upland blanket bog; flushed (wintering)	AOD
RG001	07/10/2025	16:21	T2	Red Grouse	1	upland blanket bog; calling (wintering)	AOD
K.001	07/10/2025	16:45	T2	Kestrel	1	upland blanket bog; foraging, male (wintering)	AOD
RE001	13/11/2025	14:50	T2	Redwing	1	upland blanket bog; foraging (wintering)	AOD
GP001	14/11/2025	14:04	T1	Golden Plover	40	upland blanket bog; fly (wintering)	AOD
MP005	18/11/2025	13:30	T3	Meadow Pipit	2	upland blanket bog; flying (wintering)	AOD
SN003	18/11/2025	13:41	T3	Snipe	1	upland blanket bog; flying (wintering)	AOD
BZ001	30/01/2026	13:03	T2	Buzzard	1	conifer plantation; soaring (wintering)	AOD
SH001	30/01/2026	13:40	T2	Sparrowhawk	1	conifer plantation; soaring (wintering)	AOD
GP002	30/01/2026	15:16	T2	Golden Plover	62	upland blanket bog; flying (wintering)	AOD
HH003	06/02/2026	10:43	T3	Hen Harrier	1	upland blanket bog; foraging, male (wintering)	AOD
MP006	06/02/2026	10:58	T3	Meadow Pipit	4	upland blanket bog; flying (wintering)	AOD
SH002	06/02/2026	11:34	T3	Sparrowhawk	1	conifer plantation; flying (wintering)	AOD
CM001	12/02/2026	14:52	T4	Common Gull	5	upland blanket bog; flying, 1 adult 4 immature (wintering)	AOD
GB001	12/02/2026	14:54	T4	Great Black-backed Gull	1	upland blanket bog; flying, adult (wintering)	AOD
MP007	12/02/2026	15:09	T4	Meadow Pipit	1	upland blanket bog; fly (wintering)	AOD
SN004	12/02/2026	15:25	T4	Snipe	1	upland blanket bog; fly (wintering)	AOD
HH004	27/03/2026	13:41	T1	Hen Harrier	2	conifer plantation; flying, 2 adult males flying together on wind, likely breeding behaviour (wintering)	AOD
K.002	27/03/2026	14:30	T1	Kestrel	1	conifer plantation; foraging, male (wintering)	AOD
LB001	27/03/2026	14:31	T1	Lesser Black-backed Gull	6	conifer plantation; flying, adults (wintering)	AOD

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
SH003	18/03/2026	13:45	T2	Sparrowhawk	1	upland blanket bog and conifer plantation; foraging, male (wintering)	AOD
MP008	18/03/2026	14:35	T2	Meadow Pipit	4	upland blanket bog; flying displaying (wintering)	AOD
GP003	18/03/2026	14:41	T2	Golden Plover	30	upland blanket bog; flying, flock moving low over bog (wintering)	AOD
SN005	18/03/2026	14:58	T2	Snipe	1	upland blanket bog; flying, flushed (wintering)	AOD
BZ002	19/03/2026	13:42	T3	Buzzard	1	upland blanket bog; soaring (wintering)	AOD
WE001	19/03/2026	13:48	T3	White-tailed Eagle	1	wet grassland and upland blanket bog; soaring, immature soaring high from dought mountain to west (wintering)	AOD
MP009	19/03/2026	15:20	T4	Meadow Pipit	8	upland blanket bog; displaying, across area (wintering)	AOD

Table 3 Incidental Survey Data

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
RG001	Winter Walkover Survey; saddle hill	15/10/2025	15:24	Red Grouse	1	upland blanket bog; droppings	AOD
WE001	Vantage Point Survey; Leckenarainey	17/10/2025	17:33	White-tailed Eagle	2	bogs; soaring, mobbed, offsite, distant. pair of adult birds, chased by corvids, descending behind terrain.	CM
WK001	Vantage Point Survey; VP1	10/11/2025	06:35	Woodcock	1	improved agricultural grassland; flushed, flew from roadside	RV
WK002	Vantage Point Survey; VP4a	12/11/2025	06:35	Woodcock	1	improved agricultural grassland; flushed, flew ahead of car along road and up hill	RV
SB001	Winter Walkover Survey; dough mtn	13/11/2025	13:40	Snow Bunting	1	upland blanket bog; foraging	AOD
MP001	Winter Walkover Survey; lisdarush	13/11/2025	16:35	Meadow Pipit	1	upland blanket bog; fly	AOD
MP002	Winter Walkover Survey; faughery	14/11/2025	10:39	Meadow Pipit	6	upland blanket bog; fly	AOD
WK003	Hen Harrier Roost Survey; faughery	14/11/2025	17:09	Woodcock	1	conifer plantation; flying	AOD
WK004	Vantage Point Survey; VP2	18/11/2025	06:45	Woodcock	1	conifer plantation; flushed, flew from roadside	RV
JS001	Vantage Point Survey; VP5	19/11/2025	13:40	Jack Snipe	1	improved agricultural grassland; flushed, flushed by sheep as I walked back to car, flew from wet flush/puddle by track.	RV
RE001	Hen Harrier Roost Survey; faughery	26/11/2025	15:59	Redwing	14	upland blanket bog; fly	AOD
SN001	Hen Harrier Roost Survey; Lisdarush	08/12/2025	16:51	Snipe	1	bogs; calling, heard, not seen.	CM
SH001	Hen Harrier Roost Survey; Tawnyfeacle	28/01/2026	16:28	Sparrowhawk	1	conifer plantation and improved agricultural grassland; gliding, adult male	CM
BZ001	Hen Harrier Roost Survey; hhvp1	12/02/2026	18:15	Buzzard	1	conifer plantation and upland blanket bog; fly, flushed near sheep carcass	AOD
BZ002	Hen Harrier Roost Survey; hhvp2	16/02/2026	18:01	Buzzard	1	upland blanket bog; soaring	AOD
BZ003	Vantage Point Survey; VP1	17/02/2026	15:33	Buzzard	1	improved agricultural grassland, scrub and treelines; circling, circling during break	RV
BZ004	Vantage Point Survey; VP1	17/02/2026	15:52	Buzzard	1	improved agricultural grassland, treelines and conifer plantation; circling, again circling during break period	RV
SN002	Vantage Point Survey; VP3	19/02/2026	19:04	Snipe	1	bogs; flying, calling	NM
BZ005	Vantage Point Survey; Faughary	23/02/2026	11:58	Buzzard	1	linear woodland/scrub, improved agricultural grassland and scrub/transitional woodland; perched, travelling, departing, flushed from perch, departing downhill	NM

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP001	Breeding Red Grouse Survey; Dough mountain	11/03/2026	11:00	Golden Plover	75	bogs; flushed, flying	CM
HG001	Hen Harrier Roost Survey; shasmore	18/03/2026	16:53	Herring Gull	6	improved agricultural grassland; perched	AOD
LB001	Hen Harrier Roost Survey; shasmore	18/03/2026	16:56	Lesser Black-backed Gull	18	improved agricultural grassland; perched	AOD
MA001	Hen Harrier Roost Survey; hhvp1	18/03/2026	18:02	Mallard	2	upland blanket bog; flying, male and female	AOD
SH002	Hen Harrier Roost Survey; hhvp1	18/03/2026	18:05	Sparrowhawk	1	conifer plantation and upland blanket bog; soaring, male	AOD
RE002	Hen Harrier Roost Survey; hhvp1	18/03/2026	18:13	Redwing	12	upland blanket bog; flying	AOD
WS001	Hen Harrier Roost Survey; lough melvin	19/03/2026	18:01	Whooper Swan	30	improved agricultural grassland, conifer plantation and wet grassland; migrating, migrating flock flying high to northwest	AOD
MP003	Hen Harrier Roost Survey; hhvp1	19/03/2026	18:15	Meadow Pipit	7	upland blanket bog; flying, flock up as if predator present. possible hen harrier roosting behind hillcrest but unconfirmed.	AOD
LE001	Vantage Point Survey; VP2	20/03/2026	05:29	Long-eared Owl	1	cutover bog; hunting, slow deep wingbeats, hunting over hill side just below vp1 as i drove onto site, seen in headlights against sky, lost against dark trees as it moved se	RV
SN003	Vantage Point Survey; VP2	20/03/2026	12:14	Snipe	2	cutover bog; flushed, 2 snipes flushed from cutover bare ground on walk back to car after vp	RV
WK005	Vantage Point Survey; VP3	21/03/2026	05:28	Woodcock	1	conifer plantation; flushed, flew from centre of road	RV
WK006	Vantage Point Survey; VP3	21/03/2026	05:28	Woodcock	1	cutover bog; flushed, flew from grass verge	RV
WK007	Hen Harrier Roost Survey; Tawnyfeacle	23/03/2026	19:09	Woodcock	1	improved agricultural grassland; flying	CM
WK008	Hen Harrier Roost Survey; Tawnyfeacle	23/03/2026	19:13	Woodcock	1	improved agricultural grassland; flying	CM
MA002	Hen Harrier Roost Survey; Raheelin	31/03/2026	19:44	Mallard	1	bogs; landing, male flying onto bog near dusk.	CM

Table 4 Non-target Species Data

Date	Survey	Species	Notes	Surveyor
07/10/2025	Vantage Point Survey, VP3	Raven		CM
07/10/2025	Vantage Point Survey, VP3	Robin		CM
07/10/2025	Vantage Point Survey, VP3	Wren		CM
07/10/2025	Vantage Point Survey, VP3	Goldfinch		CM
07/10/2025	Vantage Point Survey, VP3	Great Tit		CM
07/10/2025	Vantage Point Survey, VP3	Blackbird		CM
17/10/2025	Vantage Point Survey, VP5	Raven		CM
17/10/2025	Vantage Point Survey, VP5	Hooded Crow		CM
17/10/2025	Vantage Point Survey, VP5	Woodpigeon		CM
17/10/2025	Vantage Point Survey, VP5	Magpie		CM
20/10/2025	Vantage Point Survey, VP4a	Hooded Crow		CM
20/10/2025	Vantage Point Survey, VP4a	Pied Wagtail		CM
20/10/2025	Vantage Point Survey, VP4a	Stonechat		CM
20/10/2025	Vantage Point Survey, VP4a	Wren		CM
20/10/2025	Vantage Point Survey, VP4a	Lesser Redpoll		CM
20/10/2025	Vantage Point Survey, VP4a	Raven		CM
28/10/2025	Vantage Point Survey, VP2	Raven	15, probably more arriving to roost	RV
28/10/2025	Vantage Point Survey, VP2	Hooded Crow	9	RV
28/10/2025	Vantage Point Survey, VP2	Magpie	4	RV
28/10/2025	Vantage Point Survey, VP2	Jay	2	RV
28/10/2025	Vantage Point Survey, VP2	Robin	3	RV
28/10/2025	Vantage Point Survey, VP2	Dunnock	1	RV
28/10/2025	Vantage Point Survey, VP2	Wren	3	RV
28/10/2025	Vantage Point Survey, VP2	Goldcrest	5	RV
28/10/2025	Vantage Point Survey, VP2	Coal Tit	8, in plantation	RV
28/10/2025	Vantage Point Survey, VP2	Long-tailed Tit	7, party moving through	RV
28/10/2025	Vantage Point Survey, VP2	Great Tit	2, calling with long-tailed tit	RV
28/10/2025	Vantage Point Survey, VP2	Siskin	14, feeding in plantation	RV
28/10/2025	Vantage Point Survey, VP2	Lesser Redpoll	3, with siskin	RV
28/10/2025	Vantage Point Survey, VP2	Crossbill	2, flyovers	RV

Date	Survey	Species	Notes	Surveyor
28/10/2025	Vantage Point Survey, VP2	Chaffinch	7, flyovers	RV
28/10/2025	Vantage Point Survey, VP2	Bullfinch	2, pair along edge of plantation	RV
28/10/2025	Vantage Point Survey, VP2	Mistle Thrush	3, flyovers	RV
28/10/2025	Vantage Point Survey, VP2	Fieldfare	23, flock around most of vp	RV
29/10/2025	Vantage Point Survey, VP1	Raven	35, minimum number arriving and roosting along road below vp	RV
29/10/2025	Vantage Point Survey, VP1	Hooded Crow	7	RV
29/10/2025	Vantage Point Survey, VP1	Magpie	6	RV
29/10/2025	Vantage Point Survey, VP1	Jackdaw	12	RV
29/10/2025	Vantage Point Survey, VP1	Starling	20	RV
29/10/2025	Vantage Point Survey, VP1	Jay	3	RV
29/10/2025	Vantage Point Survey, VP1	Fieldfare	32, small numbers during vp, 32 arrived at dusk.	RV
29/10/2025	Vantage Point Survey, VP1	Blackbird	1, singing briefly	RV
29/10/2025	Vantage Point Survey, VP1	Mistle Thrush	3, regular around vp	RV
29/10/2025	Vantage Point Survey, VP1	Coal Tit	3, in plantation	RV
29/10/2025	Vantage Point Survey, VP1	Goldcrest	4, in plantation	RV
29/10/2025	Vantage Point Survey, VP1	Dunnock	1, calling	RV
29/10/2025	Vantage Point Survey, VP1	Robin	2, singing	RV
29/10/2025	Vantage Point Survey, VP1	Wren	2, heard	RV
29/10/2025	Vantage Point Survey, VP1	Reed Bunting	2, flyovers	RV
29/10/2025	Vantage Point Survey, VP1	Siskin	12, flyovers	RV
29/10/2025	Vantage Point Survey, VP1	Lesser Redpoll	1, flyover	RV
29/10/2025	Vantage Point Survey, VP1	Chaffinch	6	RV
29/10/2025	Vantage Point Survey, VP1	Crossbill	16, feeding on trees by road	RV
11/11/2025	Vantage Point Survey, VP1	Robin	3	RV
11/11/2025	Vantage Point Survey, VP1	Wren	4	RV
11/11/2025	Vantage Point Survey, VP1	Dunnock	1	RV
11/11/2025	Vantage Point Survey, VP1	Reed Bunting	2	RV
11/11/2025	Vantage Point Survey, VP1	Magpie	11	RV
11/11/2025	Vantage Point Survey, VP1	Hooded Crow	2	RV

Date	Survey	Species	Notes	Surveyor
11/11/2025	Vantage Point Survey, VP1	Raven	9	RV
11/11/2025	Vantage Point Survey, VP1	Rook	4	RV
11/11/2025	Vantage Point Survey, VP1	Jackdaw	17, in sheep fields	RV
11/11/2025	Vantage Point Survey, VP1	Jay	3	RV
11/11/2025	Vantage Point Survey, VP1	Starling	20, mobile flock	RV
11/11/2025	Vantage Point Survey, VP1	Woodpigeon	46, some noticeable passage east, flocks of 13 and 6	RV
11/11/2025	Vantage Point Survey, VP1	Goldcrest	2	RV
11/11/2025	Vantage Point Survey, VP1	Coal Tit	3	RV
11/11/2025	Vantage Point Survey, VP1	Great Tit	1	RV
11/11/2025	Vantage Point Survey, VP1	Mistle Thrush	4	RV
11/11/2025	Vantage Point Survey, VP1	Fieldfare	25, rough count of roving flock	RV
11/11/2025	Vantage Point Survey, VP1	Blackbird	1	RV
11/11/2025	Vantage Point Survey, VP1	Song Thrush	2	RV
11/11/2025	Vantage Point Survey, VP1	Siskin	4	RV
11/11/2025	Vantage Point Survey, VP1	Lesser Redpoll	1	RV
11/11/2025	Vantage Point Survey, VP1	Chaffinch	7	RV
11/11/2025	Vantage Point Survey, VP1	Stonechat	1	RV
11/11/2025	Vantage Point Survey, VP1	Pied Wagtail	1	RV
18/11/2025	Vantage Point Survey, VP2	Meadow Pipit	1, flew over vp on a few occasions	RV
18/11/2025	Vantage Point Survey, VP2	Fieldfare	10, rough count around dawn, appeared to roost in tussocks around vp	RV
18/11/2025	Vantage Point Survey, VP2	Raven	35, min count leaving roost below vp	RV
18/11/2025	Vantage Point Survey, VP2	Hooded Crow	9	RV
18/11/2025	Vantage Point Survey, VP2	Magpie	3	RV
18/11/2025	Vantage Point Survey, VP2	Jay	1	RV
18/11/2025	Vantage Point Survey, VP2	Snow Bunting	14 on bare area above vp, mobile	RV
18/11/2025	Vantage Point Survey, VP2	Siskin	10, in pines feeding	RV
18/11/2025	Vantage Point Survey, VP2	Crossbill	4, flyovers	RV
18/11/2025	Vantage Point Survey, VP2	Coal Tit	4	RV
18/11/2025	Vantage Point Survey, VP2	Goldcrest	3	RV

Date	Survey	Species	Notes	Surveyor
18/11/2025	Vantage Point Survey, VP2	Robin	1	RV
18/11/2025	Vantage Point Survey, VP2	Wren	2	RV
18/11/2025	Vantage Point Survey, VP2	Robin	1 singing occasionally	RV
18/11/2025	Vantage Point Survey, VP2	Wren	2 heard	RV
18/11/2025	Vantage Point Survey, VP2	Mistle Thrush	4	RV
18/11/2025	Vantage Point Survey, VP2	Fieldfare	30, rough count west just after sunrise	RV
18/11/2025	Vantage Point Survey, VP2	Blackbird	1, flyover	RV
18/11/2025	Vantage Point Survey, VP2	Hooded Crow	11	RV
18/11/2025	Vantage Point Survey, VP2	Raven	22, minimum count leaving roost below vp2	RV
18/11/2025	Vantage Point Survey, VP2	Magpie	3	RV
18/11/2025	Vantage Point Survey, VP2	Rook	1	RV
18/11/2025	Vantage Point Survey, VP2	Siskin	6	RV
18/11/2025	Vantage Point Survey, VP2	Lesser Redpoll	1	RV
18/11/2025	Vantage Point Survey, VP2	Chaffinch	5	RV
18/11/2025	Vantage Point Survey, VP2	Crossbill	1, briefly in small stand of pines	RV
18/11/2025	Vantage Point Survey, VP2	Woodpigeon	1	RV
18/11/2025	Vantage Point Survey, VP2	Pied Wagtail	1	RV
19/11/2025	Vantage Point Survey, VP5	Robin	2	RV
19/11/2025	Vantage Point Survey, VP5	Wren	3	RV
19/11/2025	Vantage Point Survey, VP5	Raven	8	RV
19/11/2025	Vantage Point Survey, VP5	Hooded Crow	4	RV
19/11/2025	Vantage Point Survey, VP5	Magpie	4, flyovers	RV
19/11/2025	Vantage Point Survey, VP5	Fieldfare	40, mobile flock across valley below	RV
19/11/2025	Vantage Point Survey, VP5	Siskin	3, flyovers	RV
19/11/2025	Vantage Point Survey, VP5	Crossbill	6, flyovers	RV
19/11/2025	Vantage Point Survey, VP5	Snow Bunting	24, min counted from photograph, mobile around vp and to northwest	RV
27/11/2025	Vantage Point Survey, VP3	Wren		JG
27/11/2025	Vantage Point Survey, VP3	Stonechat		JG
27/11/2025	Vantage Point Survey, VP3	Raven		JG

Date	Survey	Species	Notes	Surveyor
27/11/2025	Vantage Point Survey, VP3	Rook		JG
27/11/2025	Vantage Point Survey, VP3	Robin		JG
27/11/2025	Vantage Point Survey, VP3	Fieldfare		JG
07/12/2025	Vantage Point Survey, VP4a	Meadow Pipit	3-4 around vp, mobile	RV
07/12/2025	Vantage Point Survey, VP4a	Raven	3	RV
07/12/2025	Vantage Point Survey, VP4a	Hooded Crow	7	RV
07/12/2025	Vantage Point Survey, VP4a	Magpie	2	RV
07/12/2025	Vantage Point Survey, VP4a	Woodpigeon	1	RV
07/12/2025	Vantage Point Survey, VP4a	Siskin	8	RV
07/12/2025	Vantage Point Survey, VP4a	Chaffinch	4	RV
07/12/2025	Vantage Point Survey, VP4a	Lesser Redpoll	3	RV
07/12/2025	Vantage Point Survey, VP4a	Crossbill	5	RV
07/12/2025	Vantage Point Survey, VP4a	Goldcrest	2	RV
07/12/2025	Vantage Point Survey, VP4a	Coal Tit	3	RV
07/12/2025	Vantage Point Survey, VP4a	Great Tit	1	RV
07/12/2025	Vantage Point Survey, VP4a	Robin	2	RV
07/12/2025	Vantage Point Survey, VP4a	Wren	1	RV
07/12/2025	Vantage Point Survey, VP4a	Dunnock	1	RV
07/12/2025	Vantage Point Survey, VP4a	Fieldfare	16	RV
07/12/2025	Vantage Point Survey, VP4a	Mistle Thrush	2	RV
07/12/2025	Vantage Point Survey, VP4a	Blackbird	1	RV
07/12/2025	Vantage Point Survey, VP4a	Snow Bunting	2, heard on a few occasions, more than 1 bird, not seen in fog above vp	RV
13/12/2025	Vantage Point Survey, VP3	Raven	6	RV
13/12/2025	Vantage Point Survey, VP3	Hooded Crow	3	RV
13/12/2025	Vantage Point Survey, VP3	Magpie	2	RV
13/12/2025	Vantage Point Survey, VP3	Chaffinch	3	RV
13/12/2025	Vantage Point Survey, VP3	Crossbill	8	RV
13/12/2025	Vantage Point Survey, VP3	Robin	1	RV
13/12/2025	Vantage Point Survey, VP3	Wren	1	RV
13/12/2025	Vantage Point Survey, VP3	Mistle Thrush	2, flyovers	RV

Date	Survey	Species	Notes	Surveyor
16/12/2025	Vantage Point Survey, VP1	Meadow Pipit	4 ranging around vp during survey	RV
16/12/2025	Vantage Point Survey, VP1	Raven	23, probably more arriving to roost	RV
16/12/2025	Vantage Point Survey, VP1	Hooded Crow	8	RV
16/12/2025	Vantage Point Survey, VP1	Magpie	4	RV
16/12/2025	Vantage Point Survey, VP1	Jay	2	RV
16/12/2025	Vantage Point Survey, VP1	Reed Bunting	1	RV
16/12/2025	Vantage Point Survey, VP1	Siskin	6	RV
16/12/2025	Vantage Point Survey, VP1	Crossbill	3	RV
16/12/2025	Vantage Point Survey, VP1	Chaffinch	4	RV
16/12/2025	Vantage Point Survey, VP1	Robin	1, singing	RV
16/12/2025	Vantage Point Survey, VP1	Great Spotted Woodpecker	1, calling	RV
16/12/2025	Vantage Point Survey, VP1	Mistle Thrush	2, flyovers	RV
22/12/2025	Vantage Point Survey, VP5	Meadow Pipit	6, minimum number, mobile around vp	RV
22/12/2025	Vantage Point Survey, VP5	Reed Bunting	2	RV
22/12/2025	Vantage Point Survey, VP5	Goldfinch	3	RV
22/12/2025	Vantage Point Survey, VP5	Siskin	3	RV
22/12/2025	Vantage Point Survey, VP5	Wren	2	RV
22/12/2025	Vantage Point Survey, VP5	Crossbill	4	RV
22/12/2025	Vantage Point Survey, VP5	Chaffinch	2	RV
22/12/2025	Vantage Point Survey, VP5	Raven	7	RV
22/12/2025	Vantage Point Survey, VP5	Hooded Crow	8	RV
22/12/2025	Vantage Point Survey, VP5	Magpie	3	RV
22/12/2025	Vantage Point Survey, VP5	Mistle Thrush	3	RV
22/12/2025	Vantage Point Survey, VP5	Fieldfare	17	RV
22/12/2025	Vantage Point Survey, VP5	Woodpigeon	3	RV
30/12/2025	Vantage Point Survey, VP2	Meadow Pipit	9, minimum count, mobile flock around vp throughout	RV
30/12/2025	Vantage Point Survey, VP2	Raven	4	RV
30/12/2025	Vantage Point Survey, VP2	Hooded Crow	12	RV
30/12/2025	Vantage Point Survey, VP2	Magpie	5	RV
30/12/2025	Vantage Point Survey, VP2	Rook	3	RV

Date	Survey	Species	Notes	Surveyor
30/12/2025	Vantage Point Survey, VP2	Jay	4	RV
30/12/2025	Vantage Point Survey, VP2	Woodpigeon	3	RV
30/12/2025	Vantage Point Survey, VP2	Mistle Thrush	6	RV
30/12/2025	Vantage Point Survey, VP2	Fieldfare	12	RV
30/12/2025	Vantage Point Survey, VP2	Redwing	3	RV
30/12/2025	Vantage Point Survey, VP2	Blackbird	1	RV
30/12/2025	Vantage Point Survey, VP2	Song Thrush	2	RV
30/12/2025	Vantage Point Survey, VP2	Starling	25+ in field with sheep below vp	RV
30/12/2025	Vantage Point Survey, VP2	Robin	1	RV
30/12/2025	Vantage Point Survey, VP2	Wren	2	RV
30/12/2025	Vantage Point Survey, VP2	Dunnock	1	RV
30/12/2025	Vantage Point Survey, VP2	Crossbill	4	RV
30/12/2025	Vantage Point Survey, VP2	Siskin	2	RV
30/12/2025	Vantage Point Survey, VP2	Lesser Redpoll	2	RV
30/12/2025	Vantage Point Survey, VP2	Goldfinch	13 in sheep field and along road	RV
30/12/2025	Vantage Point Survey, VP2	Linnet	2, with go	RV
30/12/2025	Vantage Point Survey, VP2	Goldcrest	3	RV
30/12/2025	Vantage Point Survey, VP2	Coal Tit	2	RV
30/12/2025	Vantage Point Survey, VP2	Great Tit	2	RV
17/01/2026	Vantage Point Survey, VP4a	Meadow Pipit	6, feeding over a wide area around vp	RV
17/01/2026	Vantage Point Survey, VP4a	Woodpigeon	3	RV
17/01/2026	Vantage Point Survey, VP4a	Raven	4	RV
17/01/2026	Vantage Point Survey, VP4a	Hooded Crow	9	RV
17/01/2026	Vantage Point Survey, VP4a	Magpie	4	RV
17/01/2026	Vantage Point Survey, VP4a	Fieldfare	13	RV
17/01/2026	Vantage Point Survey, VP4a	Mistle Thrush	3	RV
17/01/2026	Vantage Point Survey, VP4a	Blackbird	1	RV
17/01/2026	Vantage Point Survey, VP4a	Song Thrush	2	RV
17/01/2026	Vantage Point Survey, VP4a	Robin	2	RV
17/01/2026	Vantage Point Survey, VP4a	Wren	2	RV

Date	Survey	Species	Notes	Surveyor
17/01/2026	Vantage Point Survey, VP4a	Coal Tit	3	RV
17/01/2026	Vantage Point Survey, VP4a	Goldcrest	4	RV
17/01/2026	Vantage Point Survey, VP4a	Siskin	7	RV
17/01/2026	Vantage Point Survey, VP4a	Chaffinch	3	RV
17/01/2026	Vantage Point Survey, VP4a	Goldfinch	5	RV
18/01/2026	Vantage Point Survey, VP5	Meadow Pipit	1, just a single seen and heard around the vp several times	RV
18/01/2026	Vantage Point Survey, VP5	Raven	13	RV
18/01/2026	Vantage Point Survey, VP5	Hooded Crow	8	RV
18/01/2026	Vantage Point Survey, VP5	Magpie	4	RV
18/01/2026	Vantage Point Survey, VP5	Jay	3	RV
18/01/2026	Vantage Point Survey, VP5	Mistle Thrush	3	RV
18/01/2026	Vantage Point Survey, VP5	Fieldfare	15	RV
18/01/2026	Vantage Point Survey, VP5	Blackbird	1, singing	RV
18/01/2026	Vantage Point Survey, VP5	Song Thrush	1, singing	RV
18/01/2026	Vantage Point Survey, VP5	Crossbill	4	RV
18/01/2026	Vantage Point Survey, VP5	Siskin	6	RV
18/01/2026	Vantage Point Survey, VP5	Lesser Redpoll	2	RV
18/01/2026	Vantage Point Survey, VP5	Chaffinch	3	RV
18/01/2026	Vantage Point Survey, VP5	Robin	1, singing	RV
18/01/2026	Vantage Point Survey, VP5	Wren	2	RV
18/01/2026	Vantage Point Survey, VP5	Woodpigeon	4	RV
18/01/2026	Vantage Point Survey, VP5	Jackdaw	25, rough count of flock around farm below vp	RV
18/01/2026	Vantage Point Survey, VP5	Starling	50, rough count of flock around farm below vp	RV
19/01/2026	Vantage Point Survey, VP3	Meadow Pipit	4 around vp, quietly feeding	RV
19/01/2026	Vantage Point Survey, VP3	Raven	2	RV
19/01/2026	Vantage Point Survey, VP3	Hooded Crow	3	RV
19/01/2026	Vantage Point Survey, VP3	Magpie	2	RV
19/01/2026	Vantage Point Survey, VP3	Woodpigeon	1	RV

Date	Survey	Species	Notes	Surveyor
19/01/2026	Vantage Point Survey, VP3	Siskin	4	RV
19/01/2026	Vantage Point Survey, VP3	Lesser Redpoll	1	RV
19/01/2026	Vantage Point Survey, VP3	Robin	2	RV
19/01/2026	Vantage Point Survey, VP3	Wren	3	RV
19/01/2026	Vantage Point Survey, VP3	Blackbird	3	RV
19/01/2026	Vantage Point Survey, VP3	Fieldfare	6, feeding over a wide area around vp	RV
19/01/2026	Vantage Point Survey, VP3	Mistle Thrush	2	RV
20/01/2026	Vantage Point Survey, VP2	Song Thrush		CM
20/01/2026	Vantage Point Survey, VP2	Wren		CM
20/01/2026	Vantage Point Survey, VP2	Rook		CM
20/01/2026	Vantage Point Survey, VP2	Hooded Crow		CM
20/01/2026	Vantage Point Survey, VP2	Raven		CM
20/01/2026	Vantage Point Survey, VP2	Woodpigeon		CM
23/01/2026	Vantage Point Survey, VP1	Song Thrush		CM
23/01/2026	Vantage Point Survey, VP1	Blackbird		CM
23/01/2026	Vantage Point Survey, VP1	Robin		CM
23/01/2026	Vantage Point Survey, VP1	Wren		CM
23/01/2026	Vantage Point Survey, VP1	Woodpigeon		CM
23/01/2026	Vantage Point Survey, VP1	Raven		CM
23/01/2026	Vantage Point Survey, VP1	Lesser Redpoll		CM
23/01/2026	Vantage Point Survey, VP1	Coal Tit		CM
14/02/2026	Vantage Point Survey, VP2	Raven	25, large numbers displaying south of vp	RV
14/02/2026	Vantage Point Survey, VP2	Hooded Crow	12	RV
14/02/2026	Vantage Point Survey, VP2	Magpie	4	RV
14/02/2026	Vantage Point Survey, VP2	Jackdaw	3	RV
14/02/2026	Vantage Point Survey, VP2	Mistle Thrush	2	RV
14/02/2026	Vantage Point Survey, VP2	Fieldfare	13	RV
14/02/2026	Vantage Point Survey, VP2	Skylark	2, feeding on road, regularly flying over vp and occasional brief song	RV
14/02/2026	Vantage Point Survey, VP2	Siskin	5	RV
14/02/2026	Vantage Point Survey, VP2	Chaffinch	4	RV

Date	Survey	Species	Notes	Surveyor
14/02/2026	Vantage Point Survey, VP2	Coal Tit	4	RV
14/02/2026	Vantage Point Survey, VP2	Goldcrest	3	RV
14/02/2026	Vantage Point Survey, VP2	Woodpigeon	2	RV
14/02/2026	Vantage Point Survey, VP2	Jay	2	RV
14/02/2026	Vantage Point Survey, VP2	Robin	1	RV
14/02/2026	Vantage Point Survey, VP2	Wren	2	RV
17/02/2026	Vantage Point Survey, VP1	Raven	30 +, gathering and no's building from 17:00	RV
17/02/2026	Vantage Point Survey, VP1	Hooded Crow	7	RV
17/02/2026	Vantage Point Survey, VP1	Magpie	3	RV
17/02/2026	Vantage Point Survey, VP1	Jackdaw	20 +, flock across farmland below	RV
17/02/2026	Vantage Point Survey, VP1	Rook	6, in fields below vp	RV
17/02/2026	Vantage Point Survey, VP1	Jay	2	RV
17/02/2026	Vantage Point Survey, VP1	Starling	12, small flock roaming fields	RV
17/02/2026	Vantage Point Survey, VP1	Mistle Thrush	2	RV
17/02/2026	Vantage Point Survey, VP1	Blackbird	1, singing	RV
17/02/2026	Vantage Point Survey, VP1	Robin	2	RV
17/02/2026	Vantage Point Survey, VP1	Wren	2	RV
17/02/2026	Vantage Point Survey, VP1	Siskin	5	RV
17/02/2026	Vantage Point Survey, VP1	Lesser Redpoll	2	RV
17/02/2026	Vantage Point Survey, VP1	Chaffinch	4	RV
17/02/2026	Vantage Point Survey, VP1	Reed Bunting	2	RV
19/02/2026	Vantage Point Survey, VP3	Raven		NM
19/02/2026	Vantage Point Survey, VP3	Magpie		NM
19/02/2026	Vantage Point Survey, VP3	Woodpigeon		NM
19/02/2026	Vantage Point Survey, VP3	Wren		NM
19/02/2026	Vantage Point Survey, VP3	Lesser Redpoll		NM
19/02/2026	Vantage Point Survey, VP3	Mistle Thrush		NM
19/02/2026	Vantage Point Survey, VP3	Song Thrush		NM
19/02/2026	Vantage Point Survey, VP3	Fieldfare		NM
19/02/2026	Vantage Point Survey, VP3	Chaffinch		NM

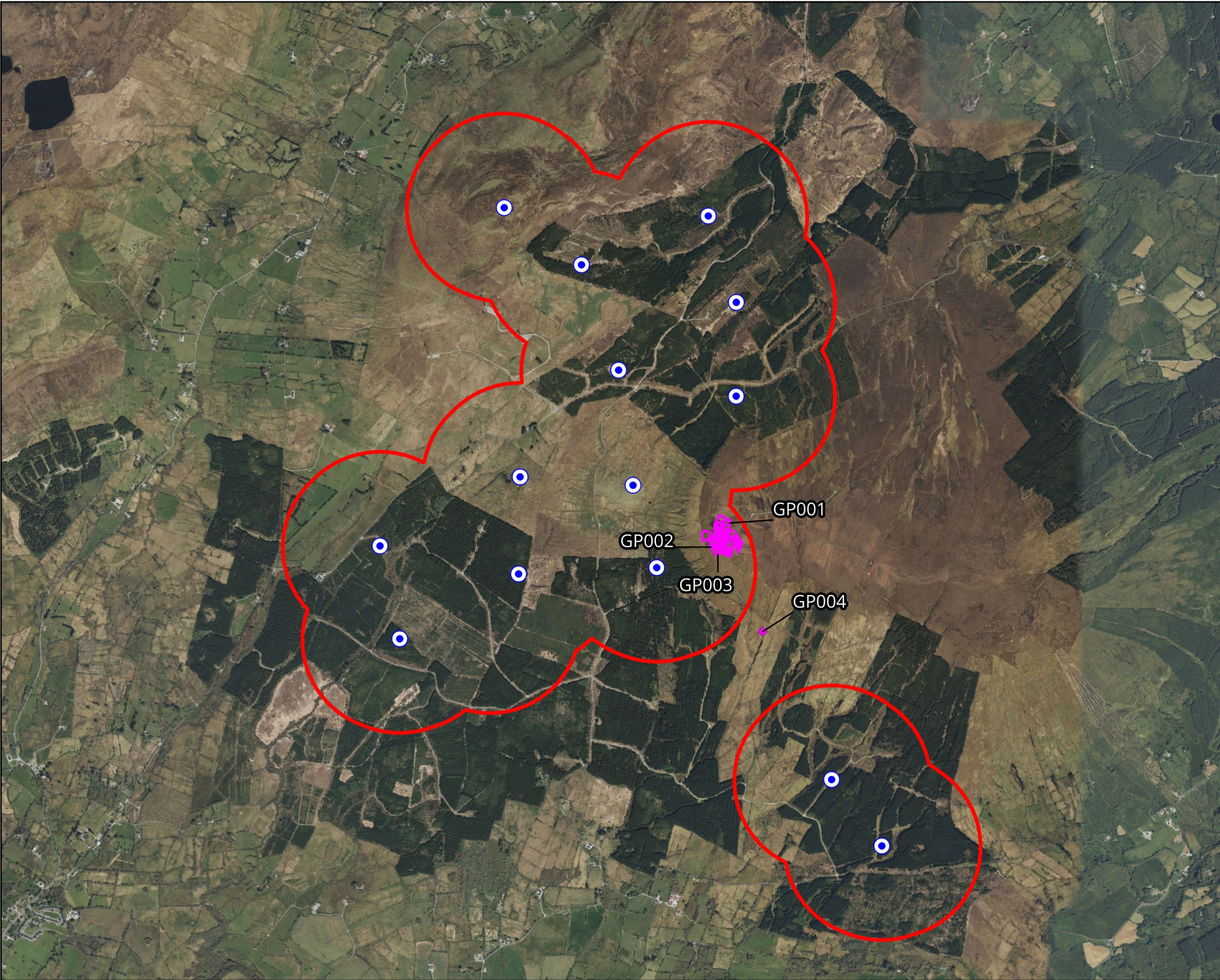
Date	Survey	Species	Notes	Surveyor
19/02/2026	Vantage Point Survey, VP3	Robin		NM
19/02/2026	Vantage Point Survey, VP3	Hooded Crow		NM
19/02/2026	Vantage Point Survey, VP3	Jay		NM
20/02/2026	Vantage Point Survey, VP4a	Wren		NM
20/02/2026	Vantage Point Survey, VP4a	Stonechat		NM
20/02/2026	Vantage Point Survey, VP4a	Raven		NM
20/02/2026	Vantage Point Survey, VP4a	Woodpigeon		NM
20/02/2026	Vantage Point Survey, VP4a	Pheasant		NM
20/02/2026	Vantage Point Survey, VP4a	Mistle Thrush		NM
20/02/2026	Vantage Point Survey, VP4a	Blackbird		NM
20/02/2026	Vantage Point Survey, VP4a	Robin		NM
20/02/2026	Vantage Point Survey, VP4a	Chaffinch		NM
20/02/2026	Vantage Point Survey, VP4a	Wren		NM
20/02/2026	Vantage Point Survey, VP4a	Magpie		NM
20/02/2026	Vantage Point Survey, VP4a	Lesser Redpoll		NM
23/02/2026	Vantage Point Survey, VP5	Pied Wagtail		NM
23/02/2026	Vantage Point Survey, VP5	Mistle Thrush		NM
23/02/2026	Vantage Point Survey, VP5	Wren		NM
23/02/2026	Vantage Point Survey, VP5	Robin		NM
23/02/2026	Vantage Point Survey, VP5	Hooded Crow		NM
23/02/2026	Vantage Point Survey, VP5	Woodpigeon		NM
23/02/2026	Vantage Point Survey, VP5	Fieldfare		NM
23/02/2026	Vantage Point Survey, VP5	Raven		NM
23/02/2026	Vantage Point Survey, VP5	Goldfinch		NM
23/02/2026	Vantage Point Survey, VP5	Long-tailed Tit		NM
23/02/2026	Vantage Point Survey, VP5	Lesser Redpoll		NM
23/02/2026	Vantage Point Survey, VP5	Stonechat		NM
23/02/2026	Vantage Point Survey, VP5	Magpie		NM
23/02/2026	Vantage Point Survey, VP5	Goldcrest		NM
19/03/2026	Vantage Point Survey, VP1	Meadow Pipit	12, at least 12 singing and displaying around vp	RV

Date	Survey	Species	Notes	Surveyor
19/03/2026	Vantage Point Survey, VP1	Mistle Thrush	2, pair	RV
19/03/2026	Vantage Point Survey, VP1	Blackbird	2, singing	RV
19/03/2026	Vantage Point Survey, VP1	Song Thrush	1, singing	RV
19/03/2026	Vantage Point Survey, VP1	Robin	2	RV
19/03/2026	Vantage Point Survey, VP1	Wren	3	RV
19/03/2026	Vantage Point Survey, VP1	Dunnock	2	RV
19/03/2026	Vantage Point Survey, VP1	Raven	13	RV
19/03/2026	Vantage Point Survey, VP1	Hooded Crow	6	RV
19/03/2026	Vantage Point Survey, VP1	Magpie	7	RV
19/03/2026	Vantage Point Survey, VP1	Jay	2	RV
19/03/2026	Vantage Point Survey, VP1	Woodpigeon	6	RV
19/03/2026	Vantage Point Survey, VP1	Sand Martin	9, numbers built up during the morning around nest site	RV
19/03/2026	Vantage Point Survey, VP1	Skylark	6, singing and displaying	RV
19/03/2026	Vantage Point Survey, VP1	Lesser Black-backed Gull	10, several adults off mapped area from munakil lough and over manorhamilton area	RV
19/03/2026	Vantage Point Survey, VP1	Siskin	11	RV
19/03/2026	Vantage Point Survey, VP1	Lesser Redpoll	1, displaying	RV
19/03/2026	Vantage Point Survey, VP1	Chaffinch	3	RV
19/03/2026	Vantage Point Survey, VP1	Coal Tit	2	RV
19/03/2026	Vantage Point Survey, VP1	Goldcrest	4	RV
20/03/2026	Vantage Point Survey, VP2	Song Thrush	1, singing	RV
20/03/2026	Vantage Point Survey, VP2	Mistle Thrush	2, pair	RV
20/03/2026	Vantage Point Survey, VP2	Blackbird	2, singing	RV
20/03/2026	Vantage Point Survey, VP2	Robin	4, singing	RV
20/03/2026	Vantage Point Survey, VP2	Wren	5	RV
20/03/2026	Vantage Point Survey, VP2	Dunnock	2	RV
20/03/2026	Vantage Point Survey, VP2	Woodpigeon	9	RV
20/03/2026	Vantage Point Survey, VP2	Sand Martin	12 along slope and around colony	RV

Date	Survey	Species	Notes	Surveyor
20/03/2026	Vantage Point Survey, VP2	Raven	15 minimum count, many in clearing in plantation through at sheep carcass	RV
20/03/2026	Vantage Point Survey, VP2	Hooded Crow	9	RV
20/03/2026	Vantage Point Survey, VP2	Magpie	3	RV
20/03/2026	Vantage Point Survey, VP2	Siskin	4	RV
20/03/2026	Vantage Point Survey, VP2	Lesser Redpoll	1	RV
20/03/2026	Vantage Point Survey, VP2	Chaffinch	7	RV
20/03/2026	Vantage Point Survey, VP2	Crossbill	4, 2 pairs flew over	RV
20/03/2026	Vantage Point Survey, VP2	Fieldfare	7, birds roosting around vp, calling and dispersed before sunrise	RV
20/03/2026	Vantage Point Survey, VP2	Meadow Pipit	20, minimum around vp, displaying and territorial	RV
20/03/2026	Vantage Point Survey, VP2	Skylark	7, singing and display flight around vp	RV
21/03/2026	Vantage Point Survey, VP3	Mistle Thrush	2, pair	RV
21/03/2026	Vantage Point Survey, VP3	Song Thrush	4, dawn chorus	RV
21/03/2026	Vantage Point Survey, VP3	Robin	6, dawn chorus	RV
21/03/2026	Vantage Point Survey, VP3	Wren	10	RV
21/03/2026	Vantage Point Survey, VP3	Dunnock	2	RV
21/03/2026	Vantage Point Survey, VP3	Siskin	8	RV
21/03/2026	Vantage Point Survey, VP3	Lesser Redpoll	2	RV
21/03/2026	Vantage Point Survey, VP3	Crossbill	2	RV
21/03/2026	Vantage Point Survey, VP3	Chaffinch	5	RV
21/03/2026	Vantage Point Survey, VP3	Bullfinch	4, 2 pairs	RV
21/03/2026	Vantage Point Survey, VP3	Goldfinch	8, along road	RV
21/03/2026	Vantage Point Survey, VP3	Raven	4	RV
21/03/2026	Vantage Point Survey, VP3	Hooded Crow	8	RV
21/03/2026	Vantage Point Survey, VP3	Magpie	2	RV
21/03/2026	Vantage Point Survey, VP3	Woodpigeon	7	RV
21/03/2026	Vantage Point Survey, VP3	Blackbird	6, dawn chorus	RV
21/03/2026	Vantage Point Survey, VP3	Pheasant	1, heard several times	RV
21/03/2026	Vantage Point Survey, VP3	Sand Martin	4	RV

Date	Survey	Species	Notes	Surveyor
21/03/2026	Vantage Point Survey, VP3	Skylark	5, minimum count, several in sporadic song flights around vp	RV
21/03/2026	Vantage Point Survey, VP3	Meadow Pipit	20, minimum count, constantly displaying and territorial birds around vp	RV
22/03/2026	Vantage Point Survey, VP4a	Raven	18	RV
22/03/2026	Vantage Point Survey, VP4a	Blackbird	2	RV
22/03/2026	Vantage Point Survey, VP4a	Mistle Thrush	2	RV
22/03/2026	Vantage Point Survey, VP4a	Song Thrush	1, singing	RV
22/03/2026	Vantage Point Survey, VP4a	Robin	4	RV
22/03/2026	Vantage Point Survey, VP4a	Wren	3	RV
22/03/2026	Vantage Point Survey, VP4a	Dunnock	2	RV
22/03/2026	Vantage Point Survey, VP4a	Coal Tit	2	RV
22/03/2026	Vantage Point Survey, VP4a	Goldcrest	2	RV
22/03/2026	Vantage Point Survey, VP4a	Siskin	3	RV
22/03/2026	Vantage Point Survey, VP4a	Lesser Redpoll	2	RV
22/03/2026	Vantage Point Survey, VP4a	Chaffinch	8	RV
22/03/2026	Vantage Point Survey, VP4a	Crossbill	4	RV
22/03/2026	Vantage Point Survey, VP4a	Goldfinch	3	RV
22/03/2026	Vantage Point Survey, VP4a	Reed Bunting	1	RV
22/03/2026	Vantage Point Survey, VP4a	Stonechat	2, pair	RV
22/03/2026	Vantage Point Survey, VP4a	Hooded Crow	9	RV
22/03/2026	Vantage Point Survey, VP4a	Magpie	4	RV
22/03/2026	Vantage Point Survey, VP4a	Jay	1	RV
22/03/2026	Vantage Point Survey, VP4a	Woodpigeon	7	RV
22/03/2026	Vantage Point Survey, VP4a	Skylark	3	RV
22/03/2026	Vantage Point Survey, VP4a	Meadow Pipit	15, minimum count, flock mobile around vp, little singing or displaying	RV
28/03/2026	Vantage Point Survey, VP5	Raven	23	RV
28/03/2026	Vantage Point Survey, VP5	Hooded Crow	9	RV
28/03/2026	Vantage Point Survey, VP5	Magpie	6	RV
28/03/2026	Vantage Point Survey, VP5	Rook	4	RV

Date	Survey	Species	Notes	Surveyor
28/03/2026	Vantage Point Survey, VP5	Starling	25, mobile flock around sheep fields	RV
28/03/2026	Vantage Point Survey, VP5	Woodpigeon	8	RV
28/03/2026	Vantage Point Survey, VP5	Mistle Thrush	2, pair	RV
28/03/2026	Vantage Point Survey, VP5	Blackbird	1	RV
28/03/2026	Vantage Point Survey, VP5	Song Thrush	1	RV
28/03/2026	Vantage Point Survey, VP5	Robin	2	RV
28/03/2026	Vantage Point Survey, VP5	Wren	3	RV
28/03/2026	Vantage Point Survey, VP5	Dunnock	1	RV
28/03/2026	Vantage Point Survey, VP5	Stonechat	2, pair	RV
28/03/2026	Vantage Point Survey, VP5	Sand Martin	16	RV
28/03/2026	Vantage Point Survey, VP5	Skylark	4	RV
28/03/2026	Vantage Point Survey, VP5	Siskin	4	RV
28/03/2026	Vantage Point Survey, VP5	Chaffinch	2	RV
28/03/2026	Vantage Point Survey, VP5	Goldfinch	2	RV
28/03/2026	Vantage Point Survey, VP5	Meadow Pipit	12, kept low in strong wind, little displaying	RV



Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline
-  Observation



Drawing Title
**Golden Plover Observations
Vantage Point Surveys**

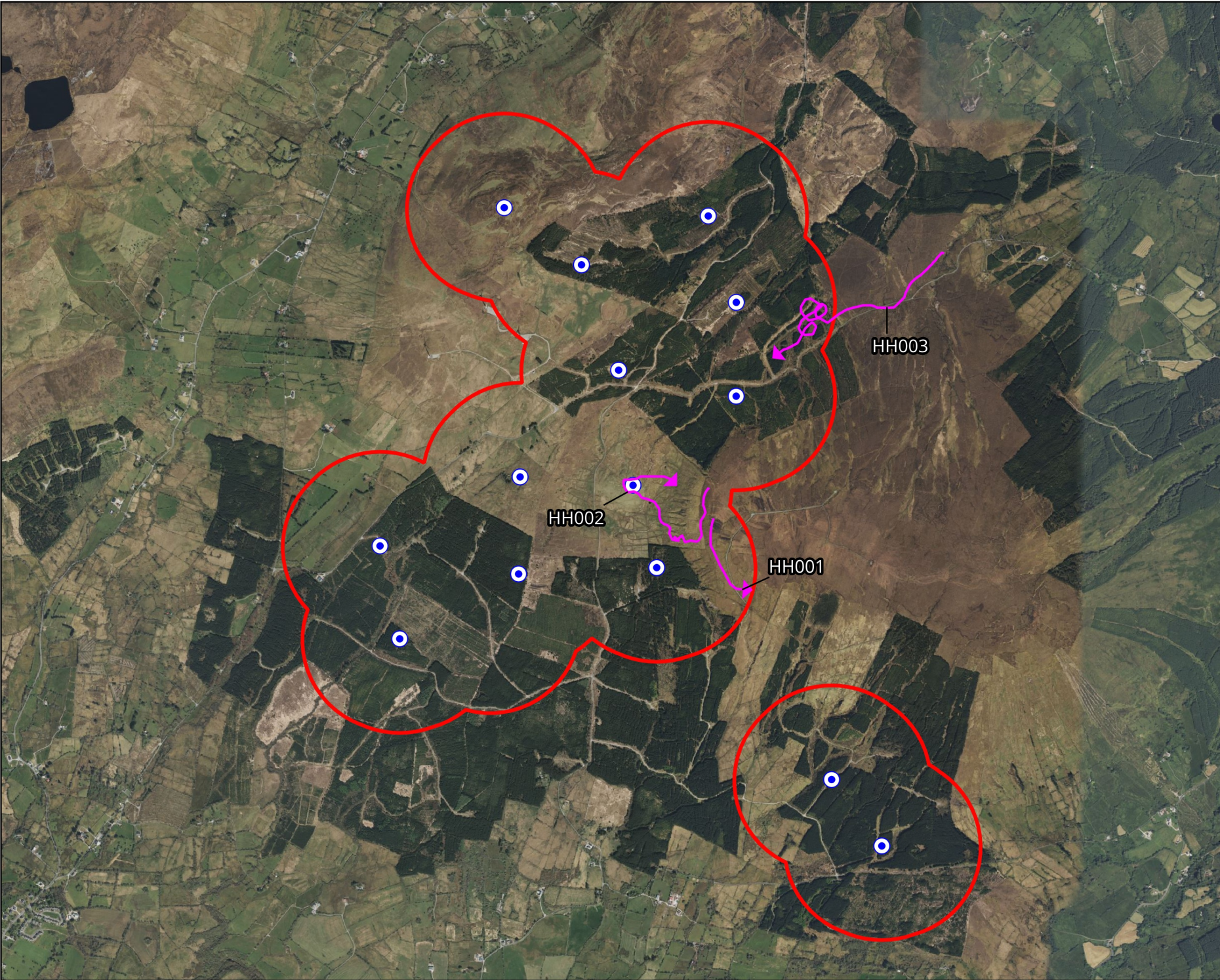
Project Title
Lissinagroagh Wind Farm

Drawn By JvD	Checked By PM
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Project No. 200217-k	Drawing No. Fig. 1
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Scale 1:27,500	Date 13/03/2026
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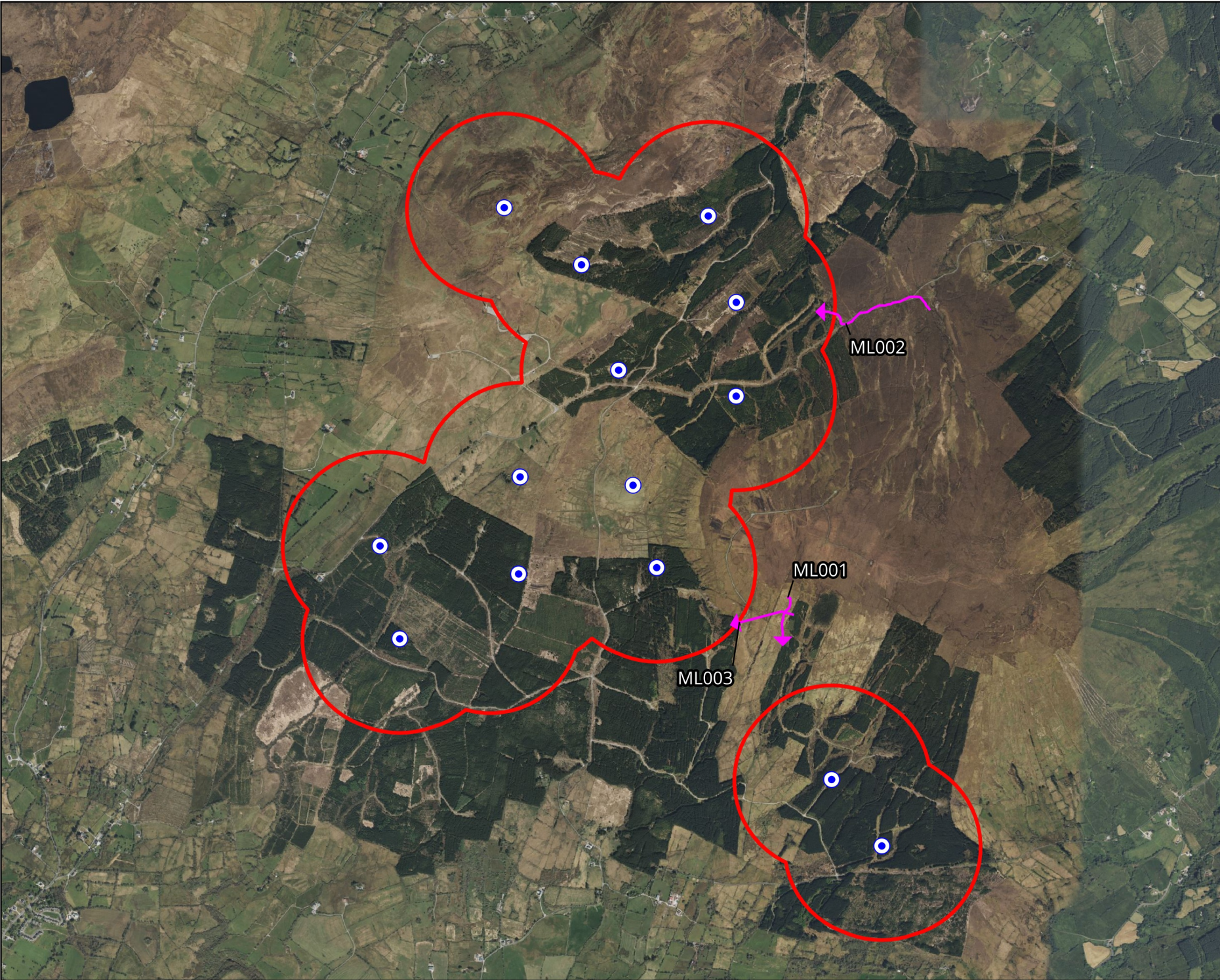


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Hen Harrier Observations Vantage Point Surveys	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 2
Scale	Date
1:27,500	13/03/2026
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title

Merlin Observations
Vantage Point Surveys

Project Title

Lissinagroagh Wind Farm

Drawn By

JvD

Checked By

PM

Project No.

200217-k

Drawing No.

Fig. 3

Scale

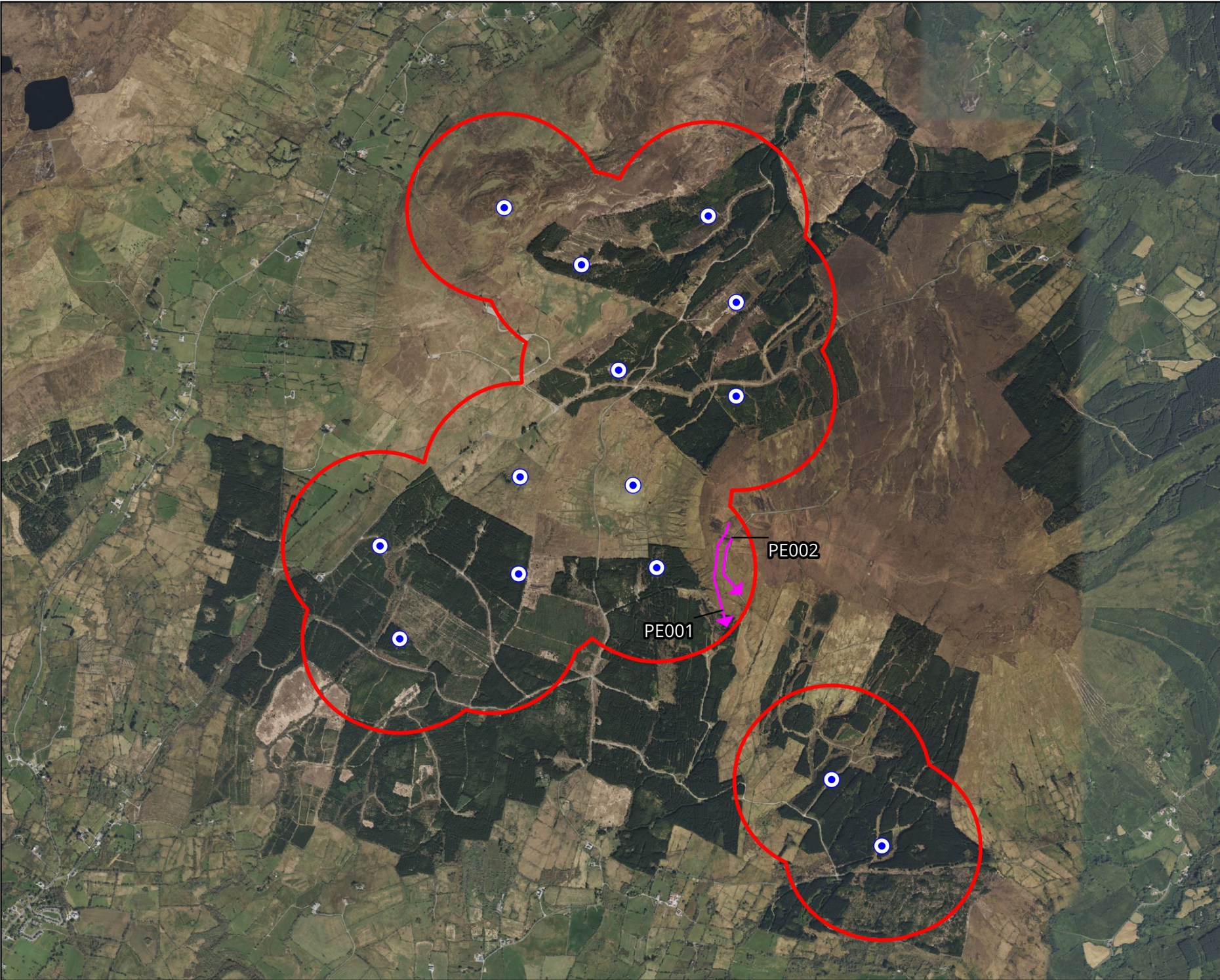
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Date

13/03/2026



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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title
Peregrine Falcon Observations
Vantage Point Surveys

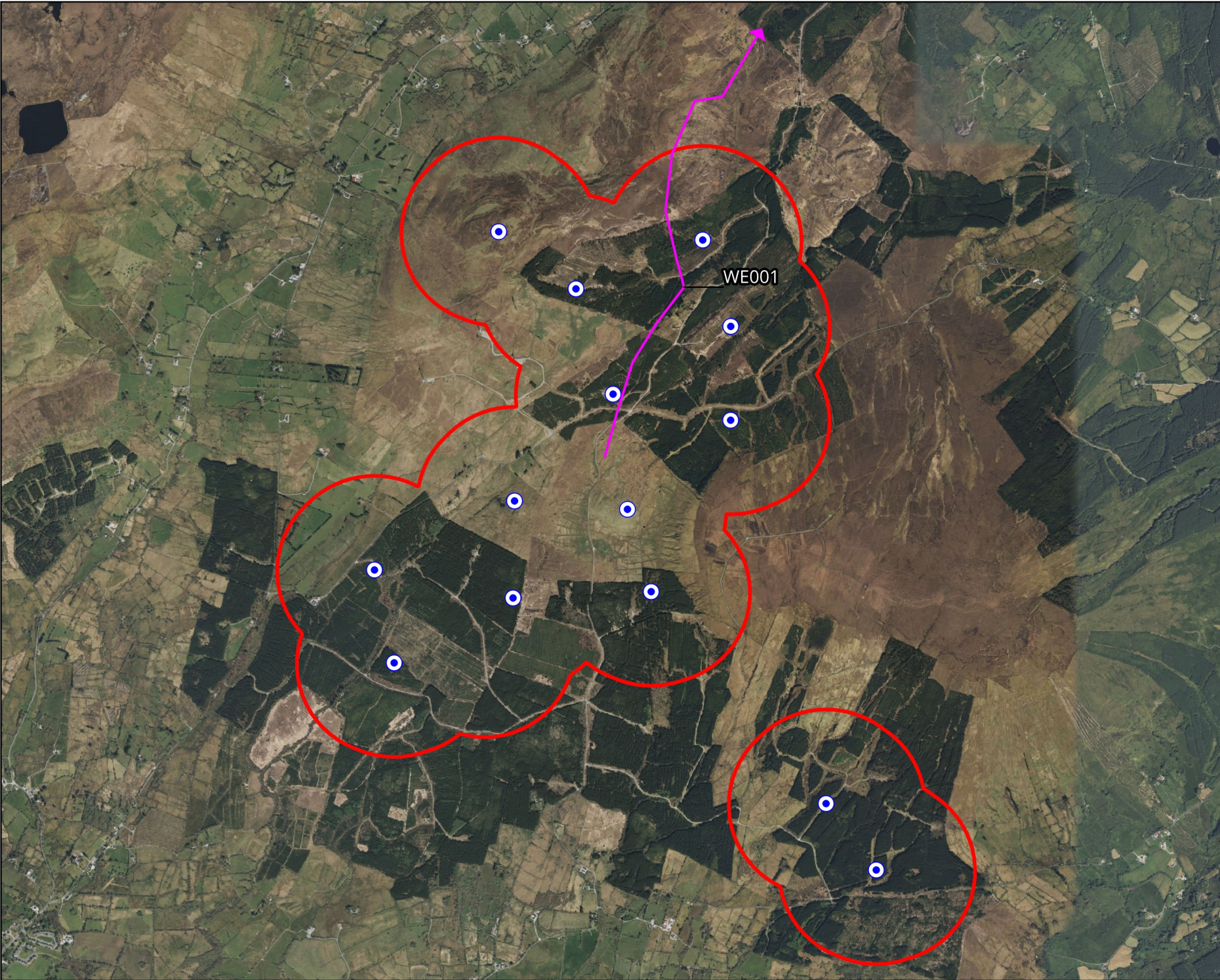
Project Title
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Project No. 200217-k	Drawing No. Fig. 4
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Scale 1:27,500	Date 13/03/2026
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title
White-tailed Eagle Observations
Vantage Point Surveys

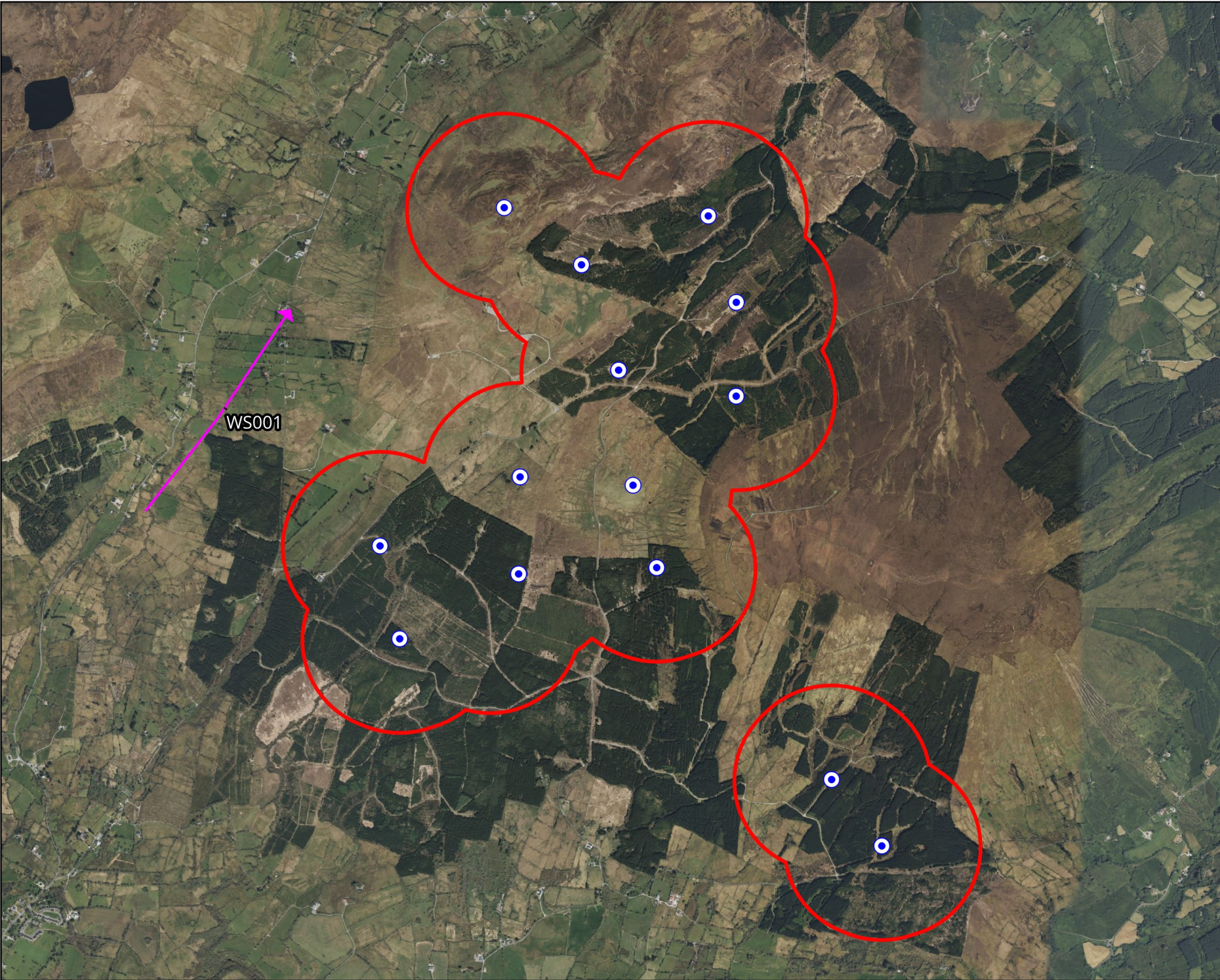
Project Title
Lissinagroagh Wind Farm

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Project No. 200217-k	Drawing No. Fig. 5
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Scale 1:27,500	Date 13/03/2026
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title
**Whooper Swan Observations
Vantage Point Surveys**

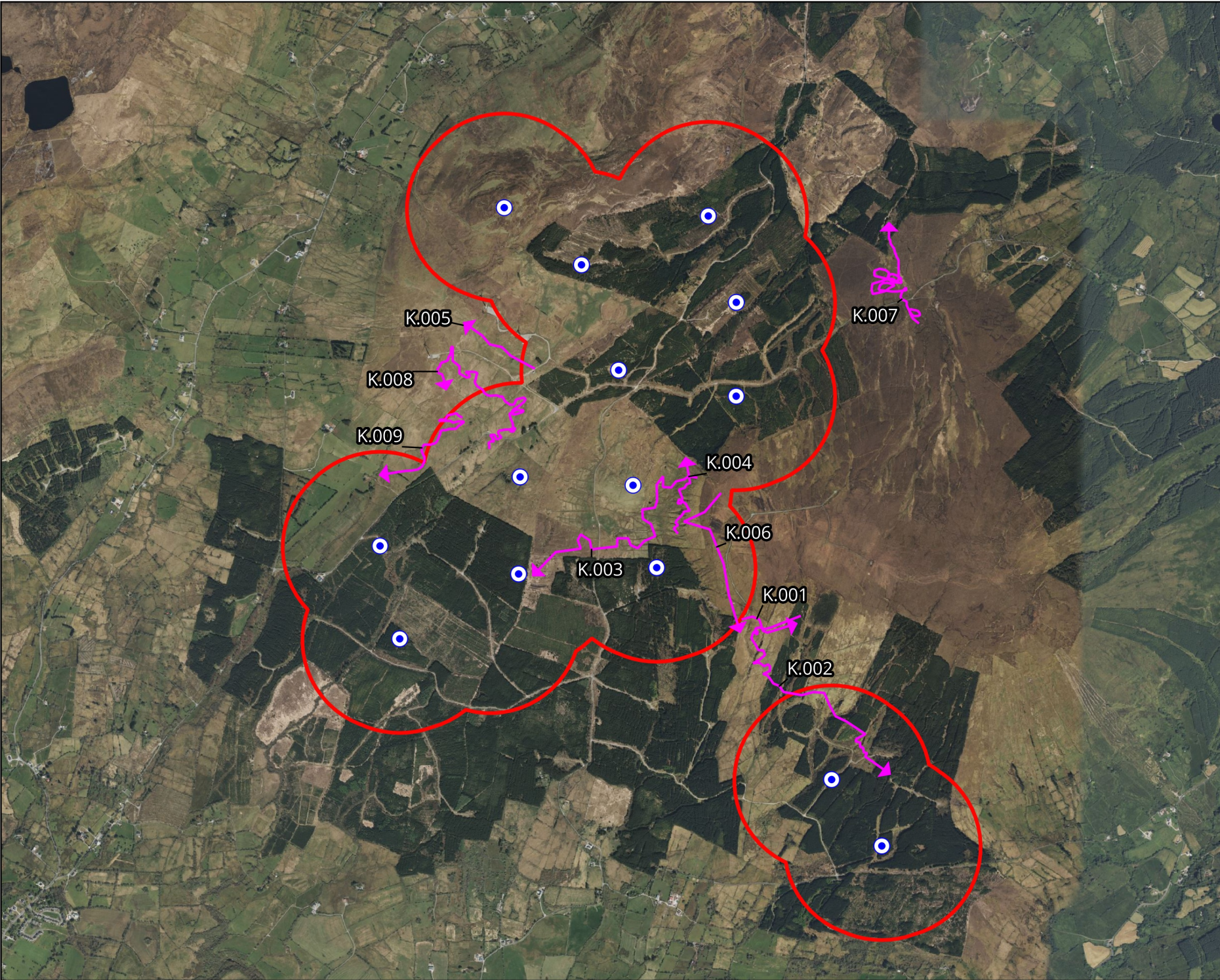
Project Title
Lissinagroagh Wind Farm

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Project No. 200217-k	Drawing No. Fig. 6
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Scale 1:27,500	Date 13/03/2026
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline

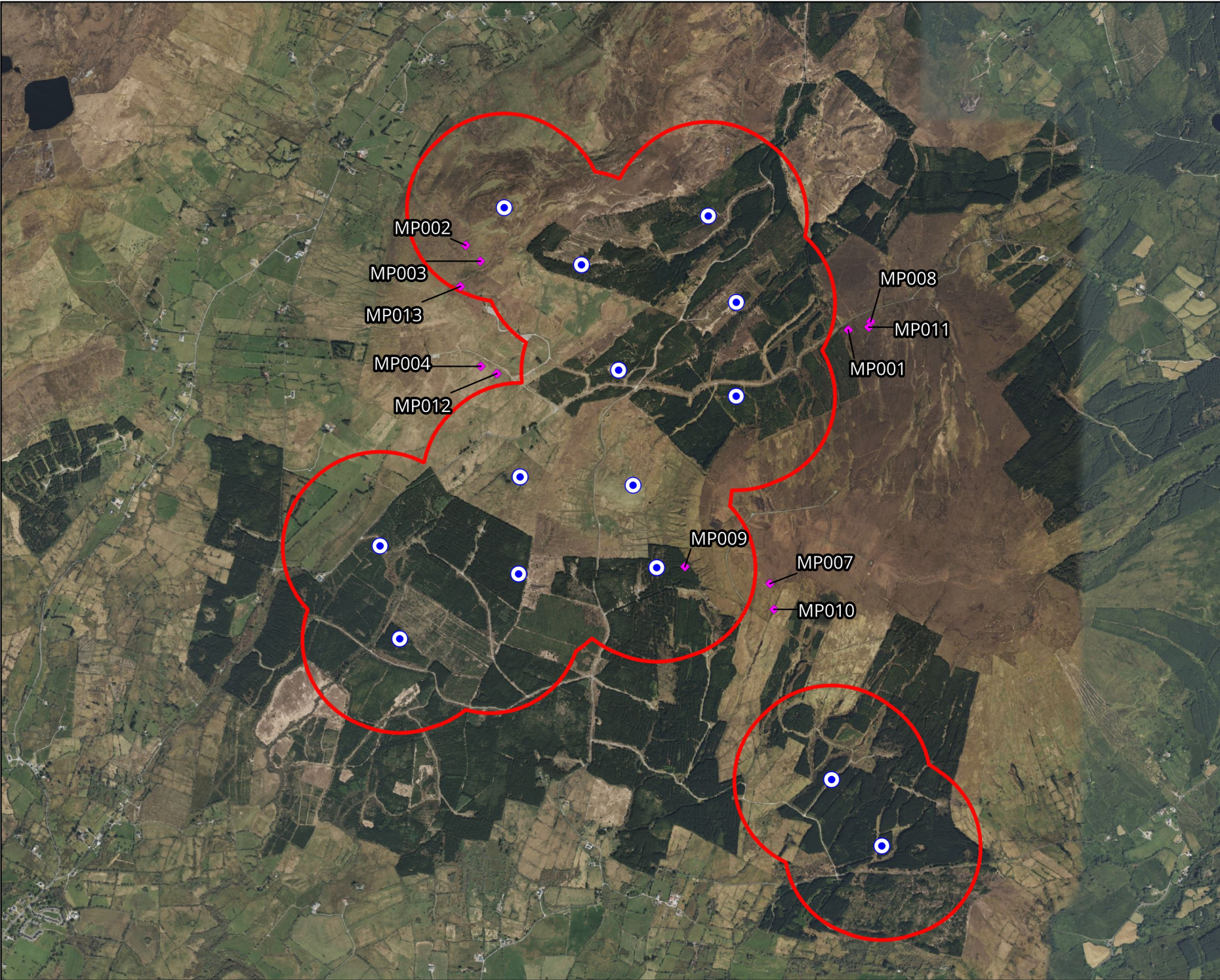


Drawing Title	
Kestrel Observations Vantage Point Surveys	
Project Title	
Lissinagroagh Wind Farm	
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JvD	PM
Project No.	Drawing No.
200217-k	Fig. 7
Scale	Date
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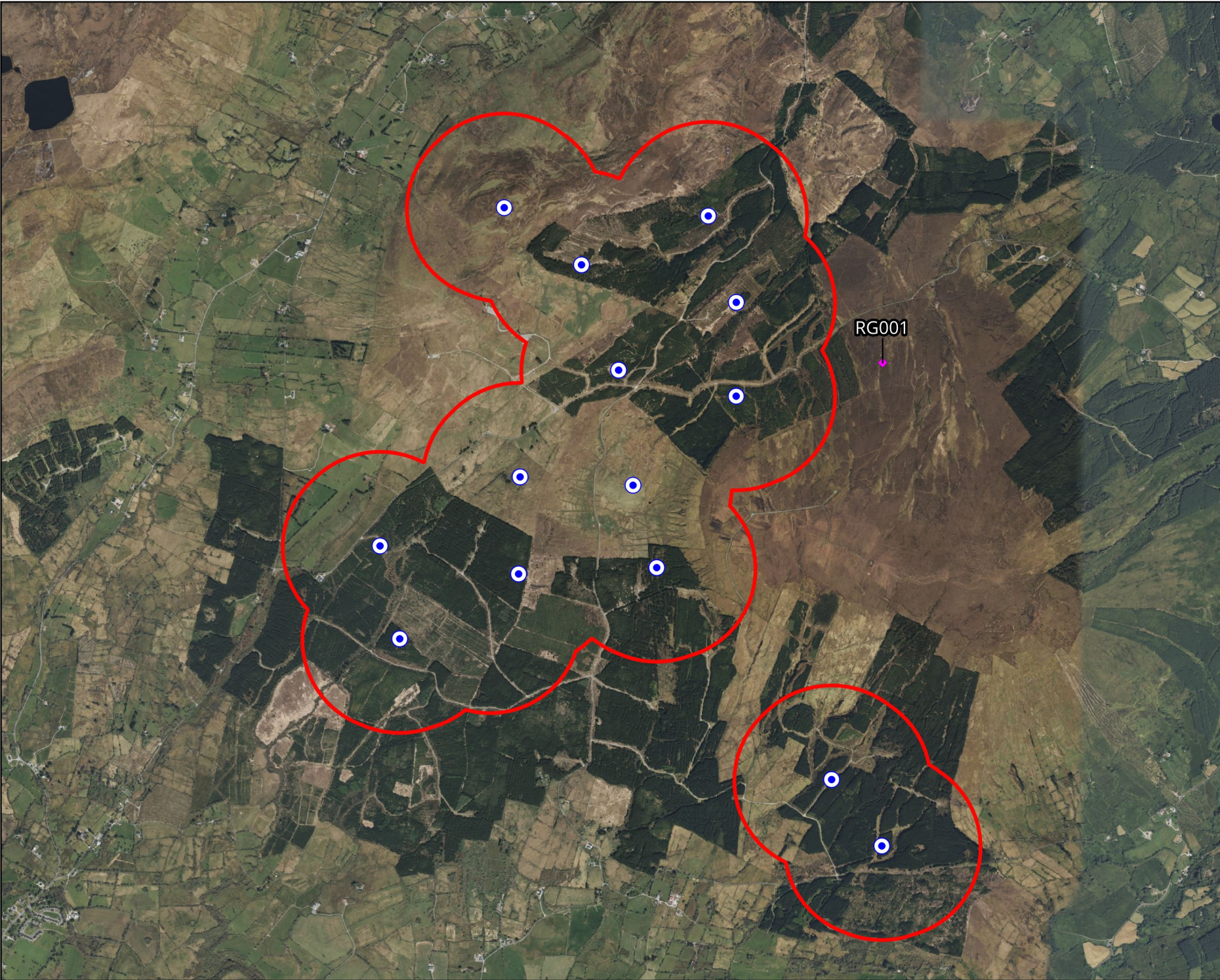


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Observation



Drawing Title	
Meadow Pipit Observations Vantage Point Surveys	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 8
Scale	Date
1:27,500	13/03/2026
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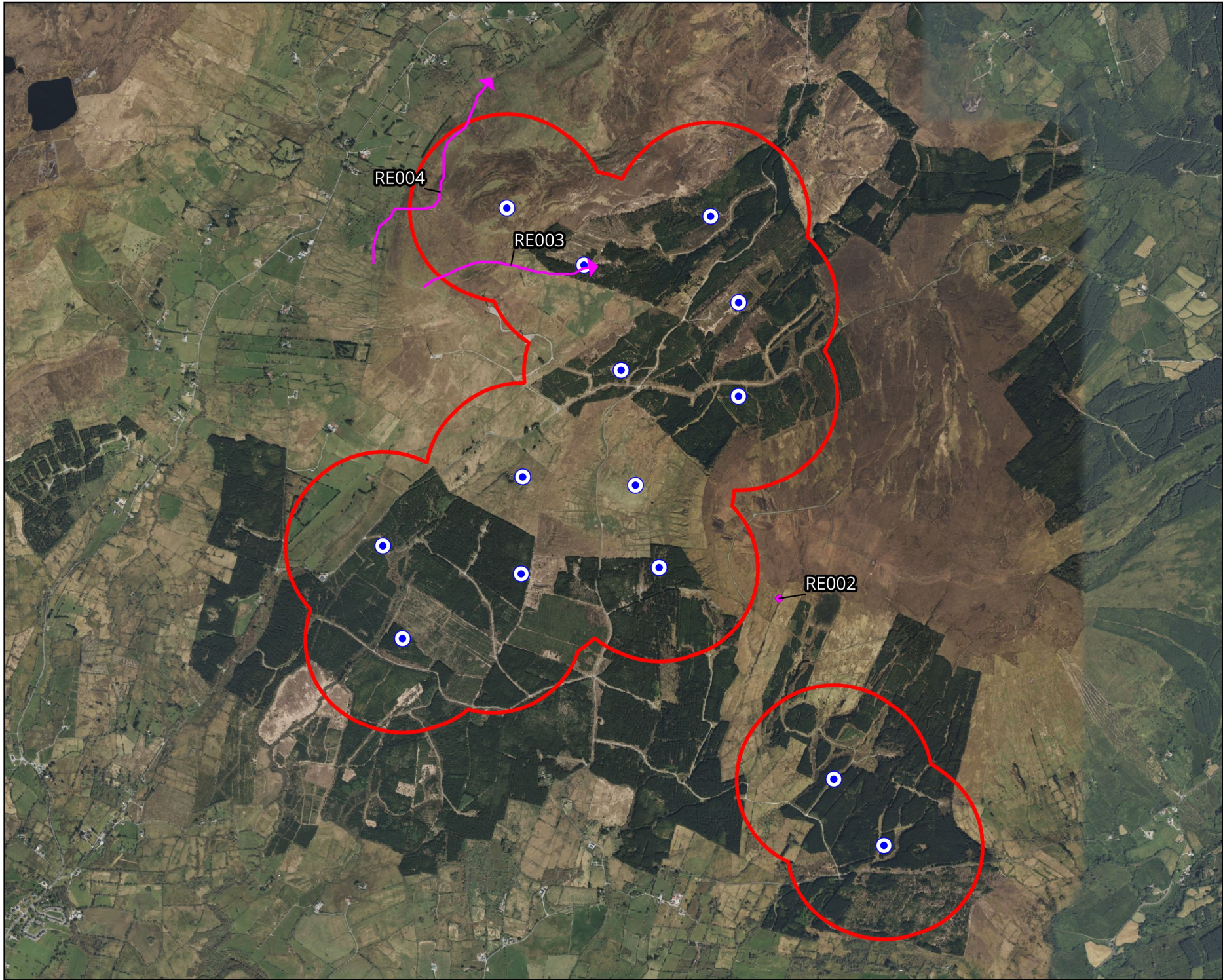


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Observation



Drawing Title	
Red Grouse Observations Vantage Point Surveys	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 9
Scale	Date
1:27,500	13/03/2026
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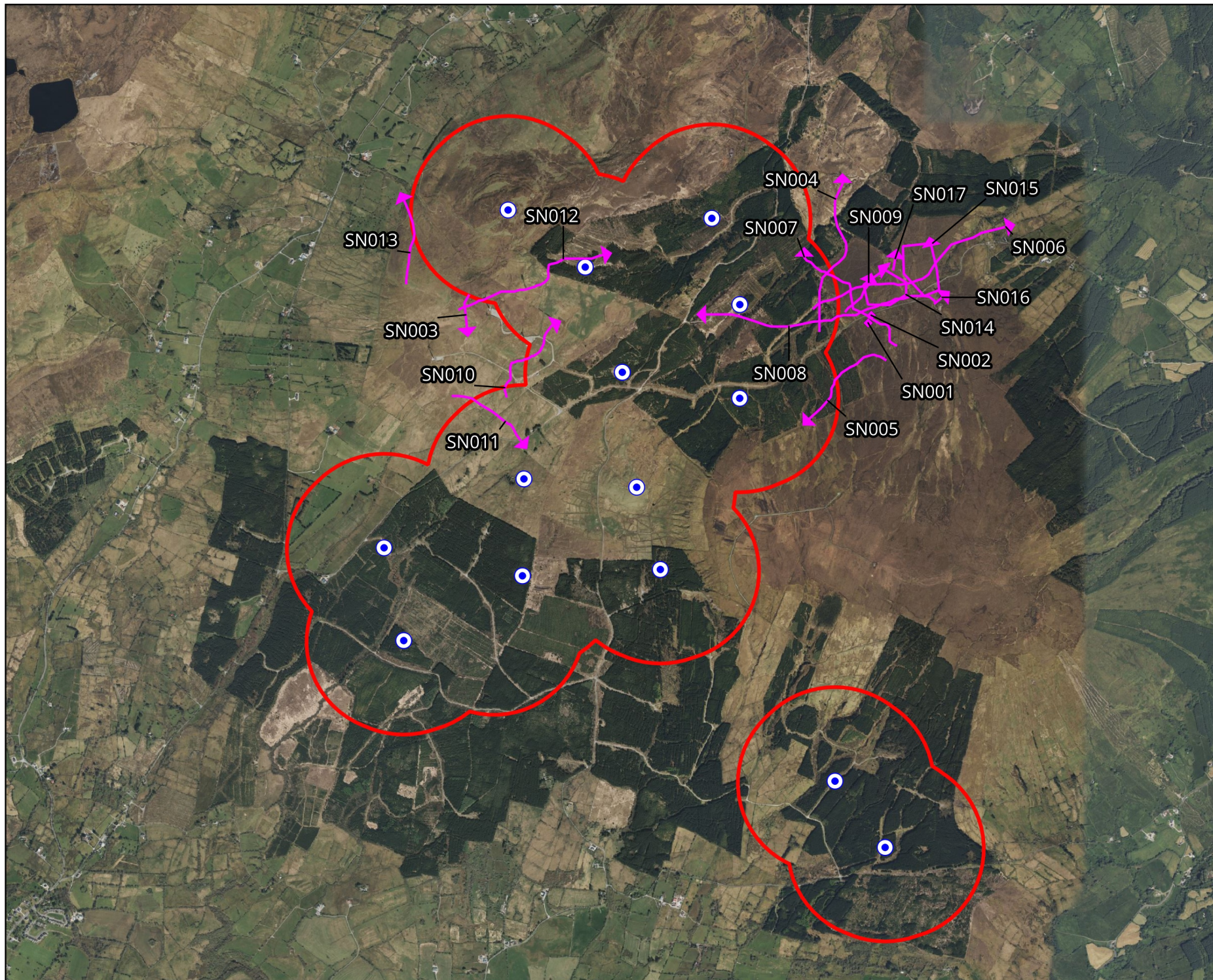


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline
-  Observation



Drawing Title	
Redwing Observations Vantage Point Surveys	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 10
Scale	Date
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline
-  Observation



Drawing Title

Snipe Observations
Vantage Point Surveys

Project Title

Lissinagroagh Wind Farm

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JvD

Checked By

PM

Project No.

200217-k

Drawing No.

Fig. 11

Scale

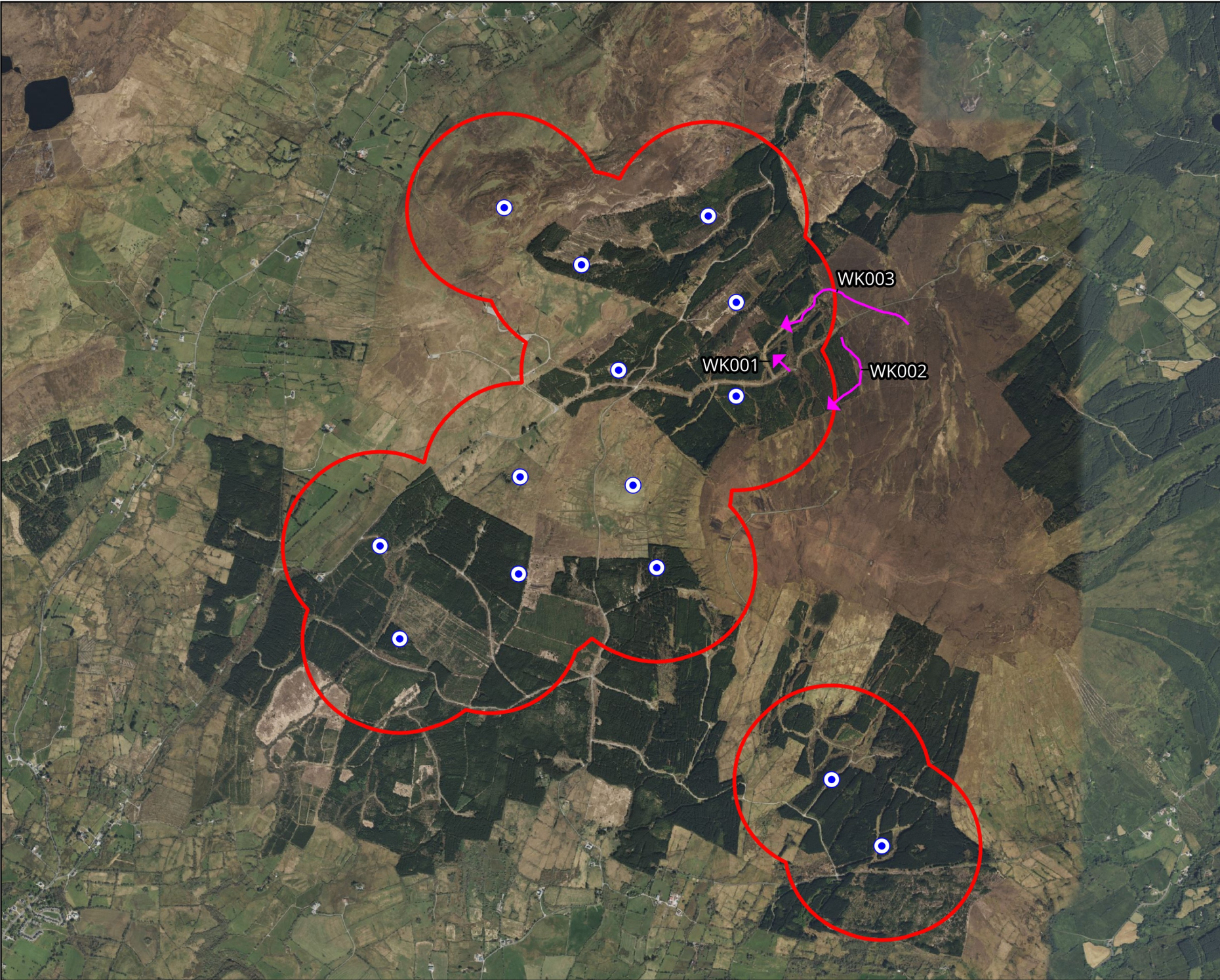
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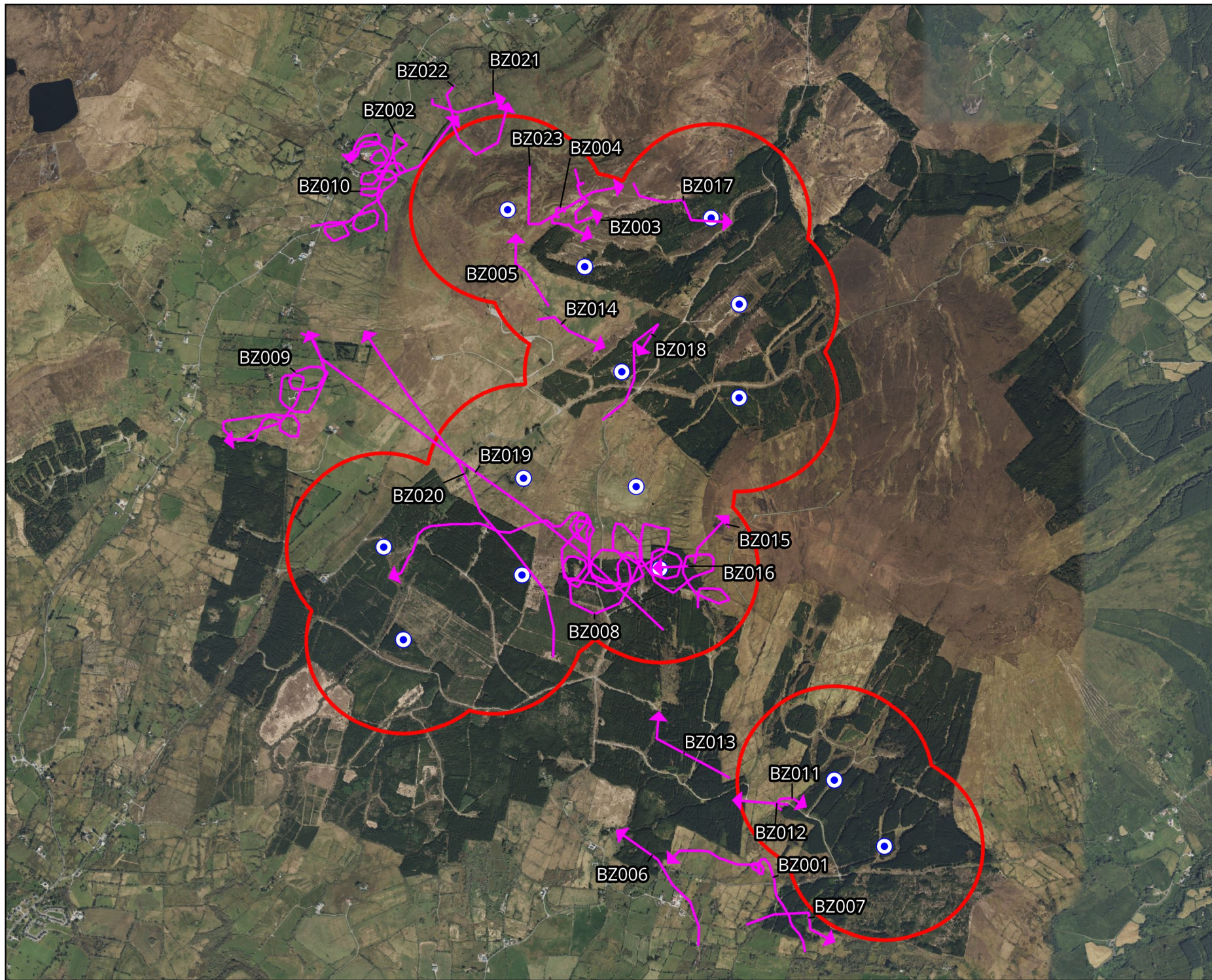


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Woodcock Observations Vantage Point Surveys	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 12
Scale	Date
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title

Buzzard Observations
Vantage Point Surveys

Project Title

Lissinagroagh Wind Farm

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Project No.

200217-k

Drawing No.

Fig. 13

Scale

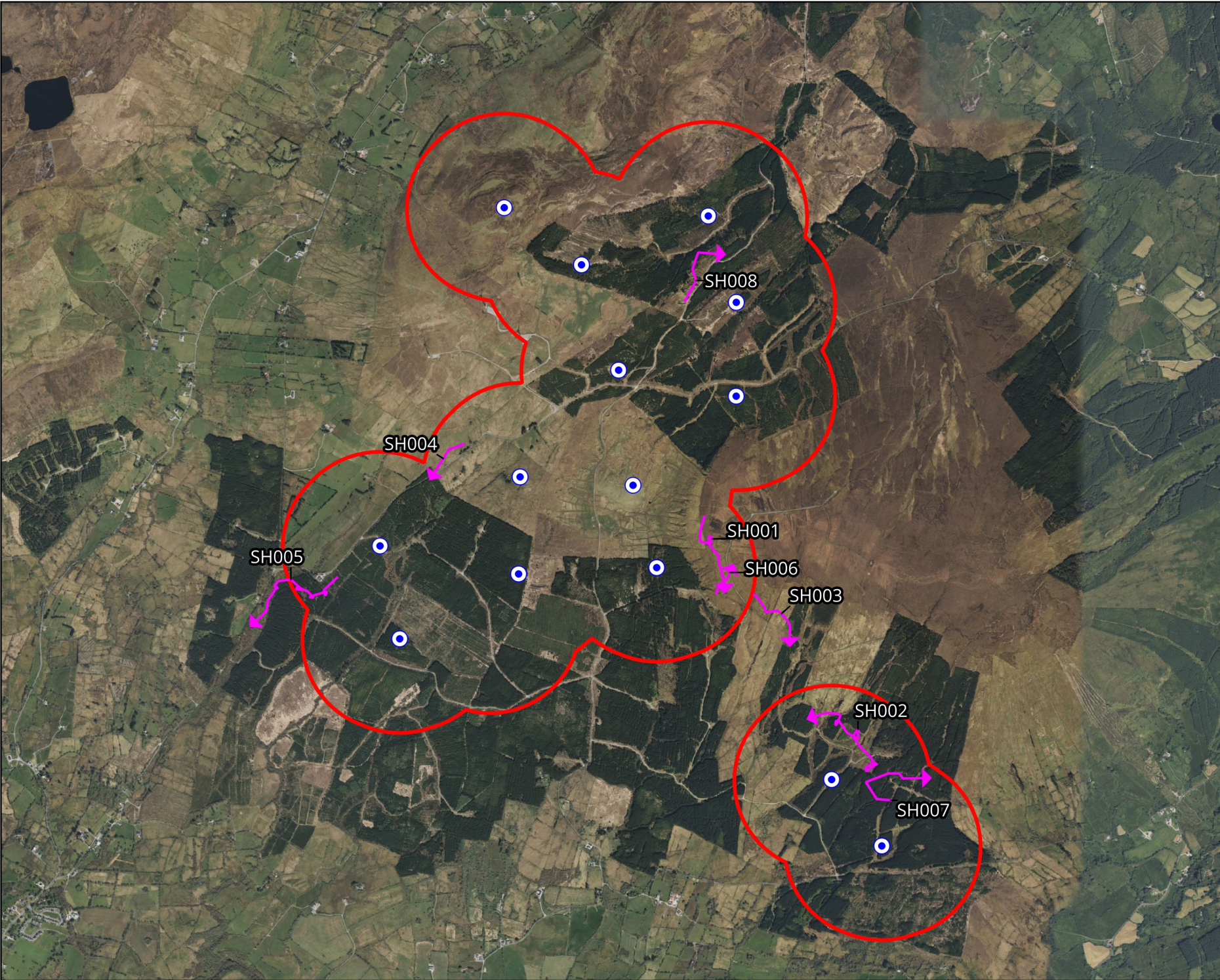
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Date

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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title
**Sparrowhawk Observations
Vantage Point Surveys**

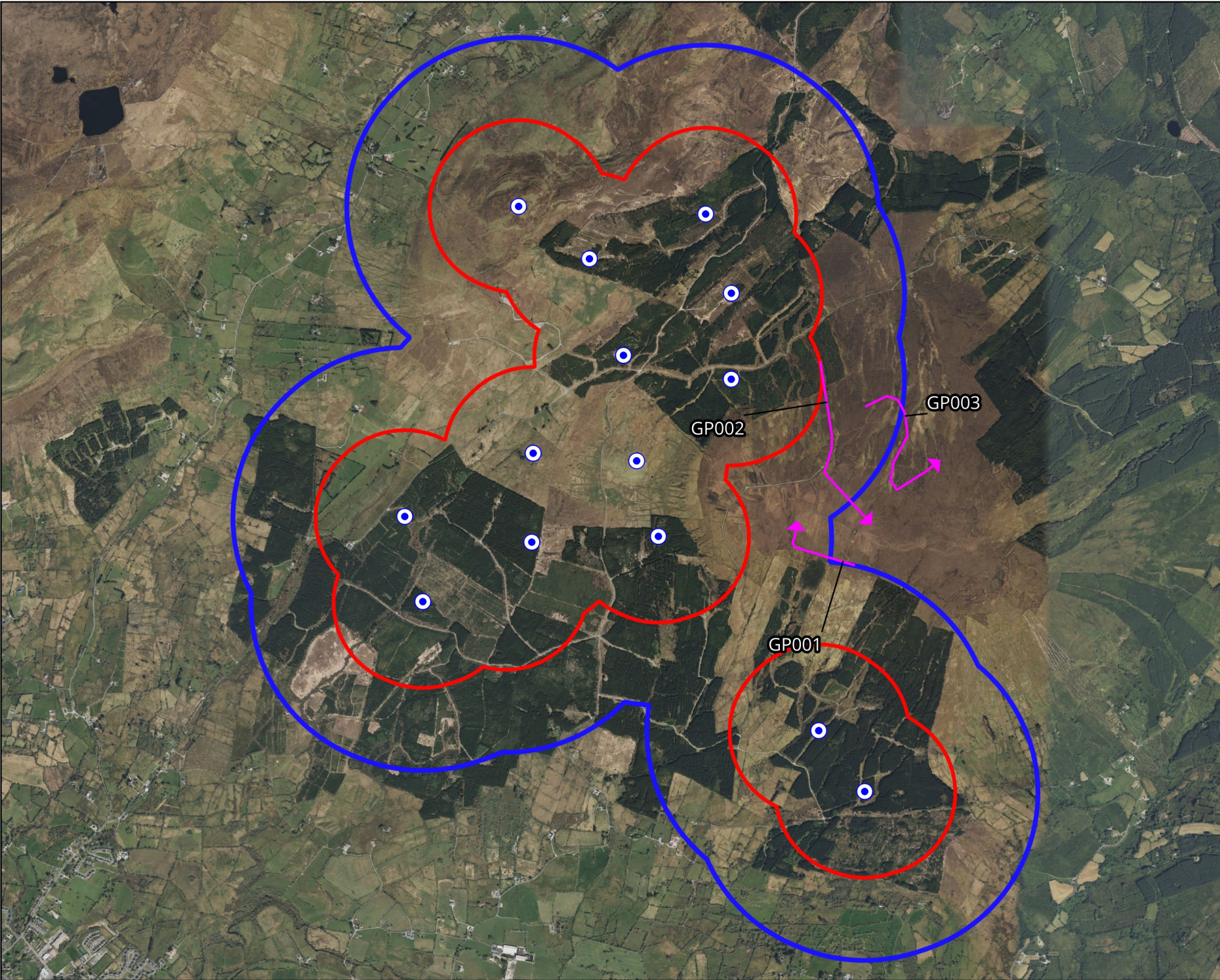
Project Title
Lissinagroagh Wind Farm

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Project No. 200217-k	Drawing No. Fig. 14
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Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title
**Golden Plover Observations
Winter Walkover Surveys**

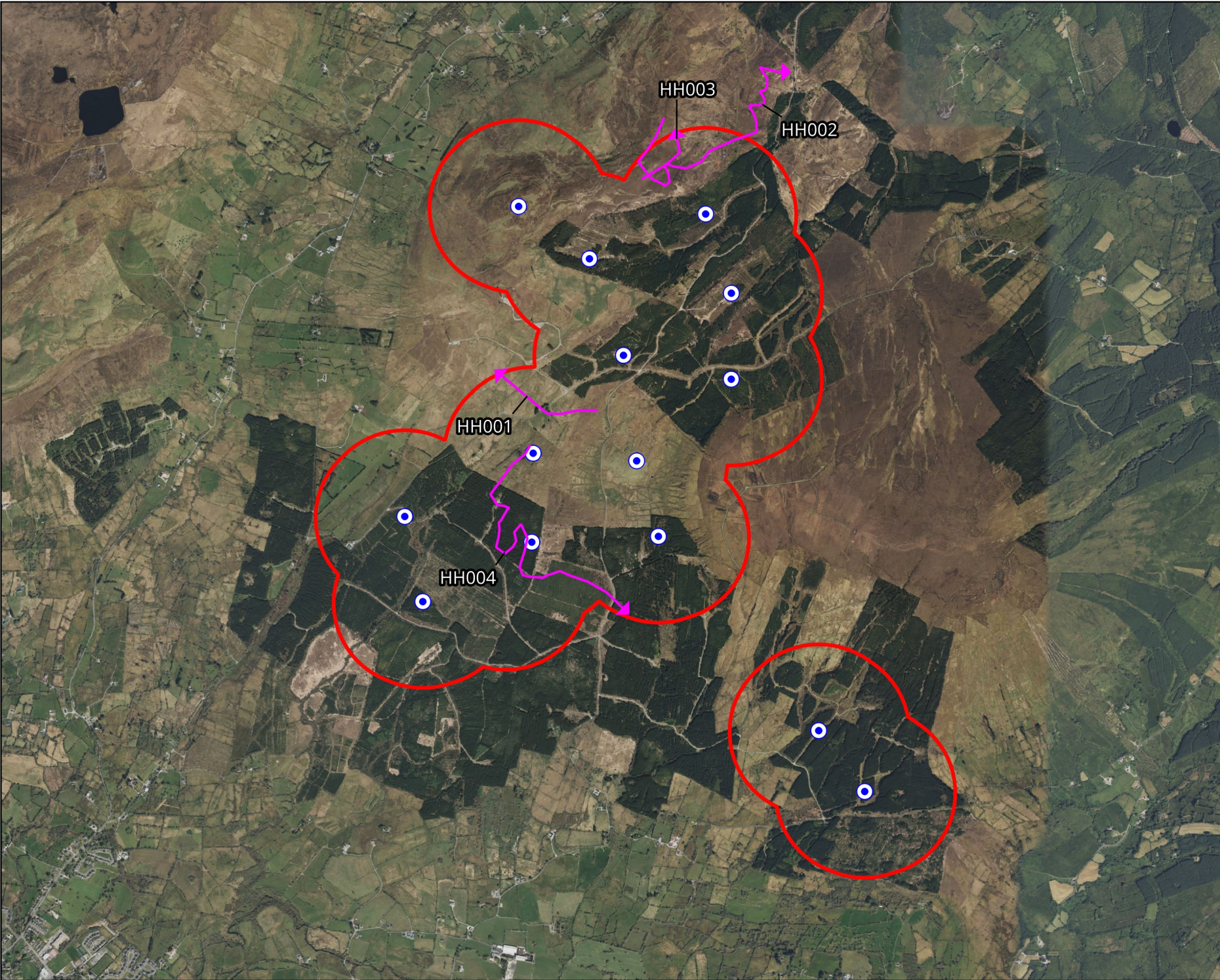
Project Title
Lissinagroagh Wind Farm

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Project No. 200217-k	Drawing No. Fig. 15
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Scale 1:30,000	Date 13/03/2026
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Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title
**Hen Harrier Observations
Winter Walkover Surveys**

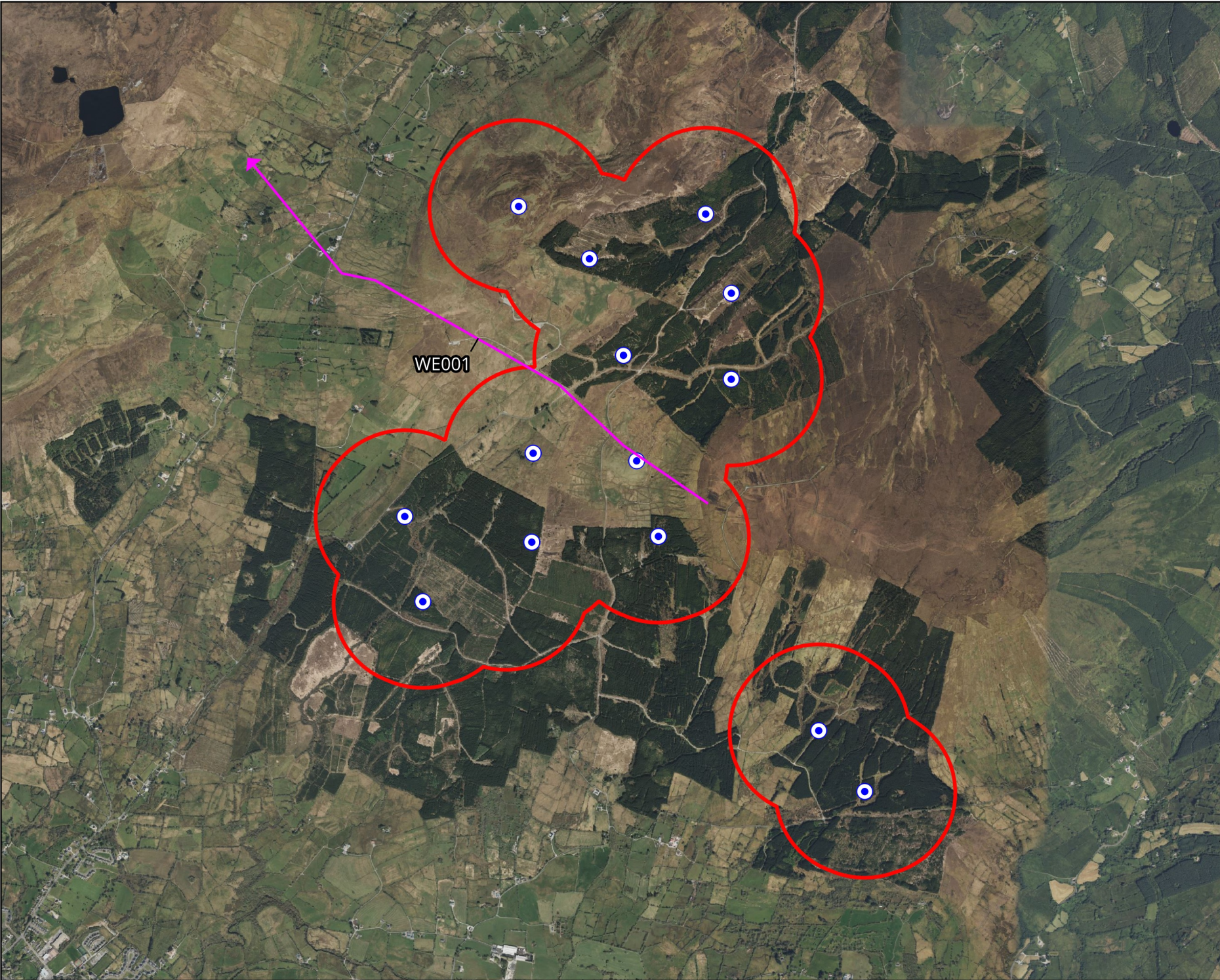
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Lissinagroagh Wind Farm

Drawn By JvD	Checked By PM
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Project No. 200217-k	Drawing No. Fig. 16
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Scale 1:30,000	Date 13/03/2026
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Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title
White-tailed Eagle Observations
Winter Walkover Surveys

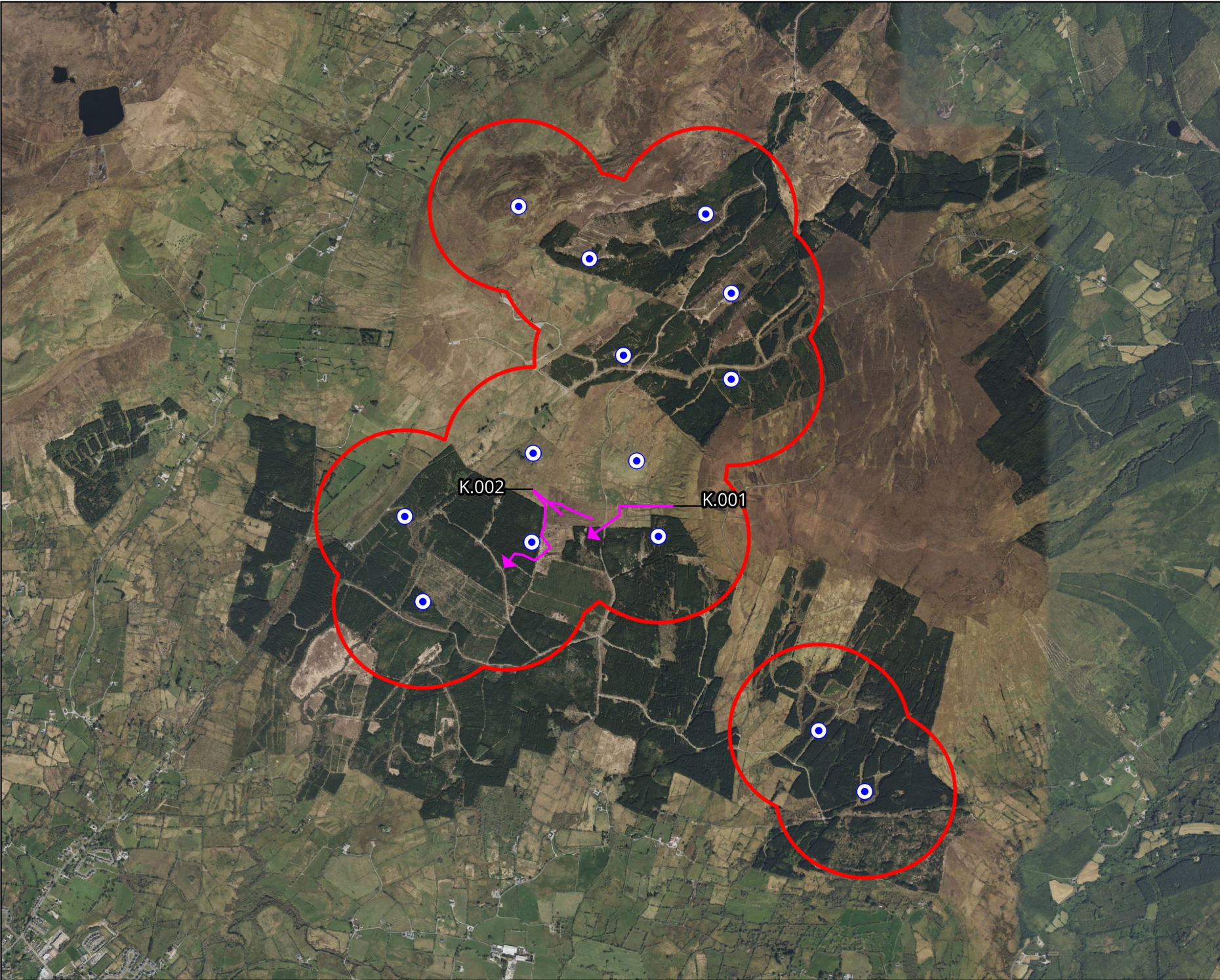
Project Title
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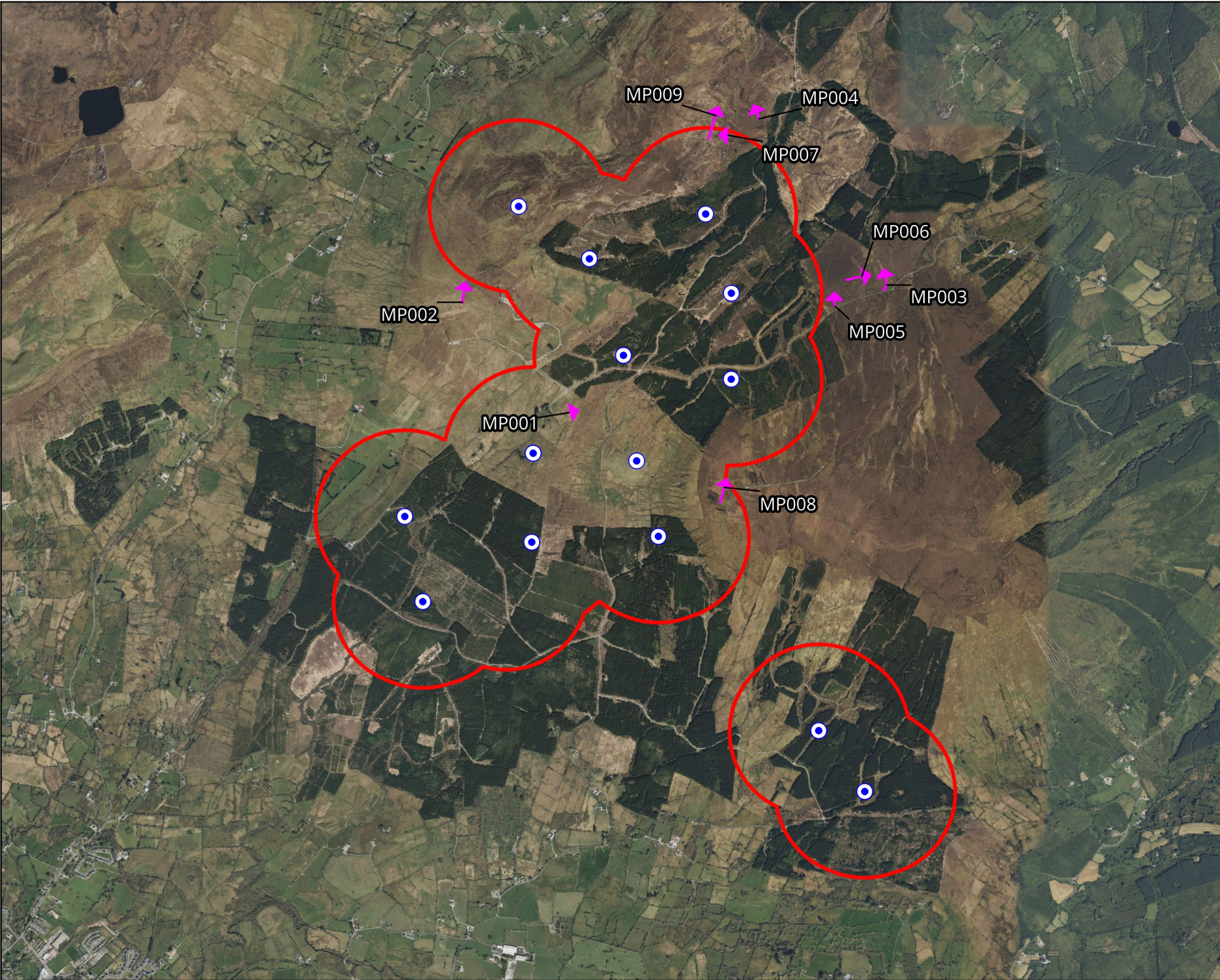


Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title	
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Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 18
Scale	Date
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Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title
**Meadow Pipit Observations
Winter Walkover Surveys**

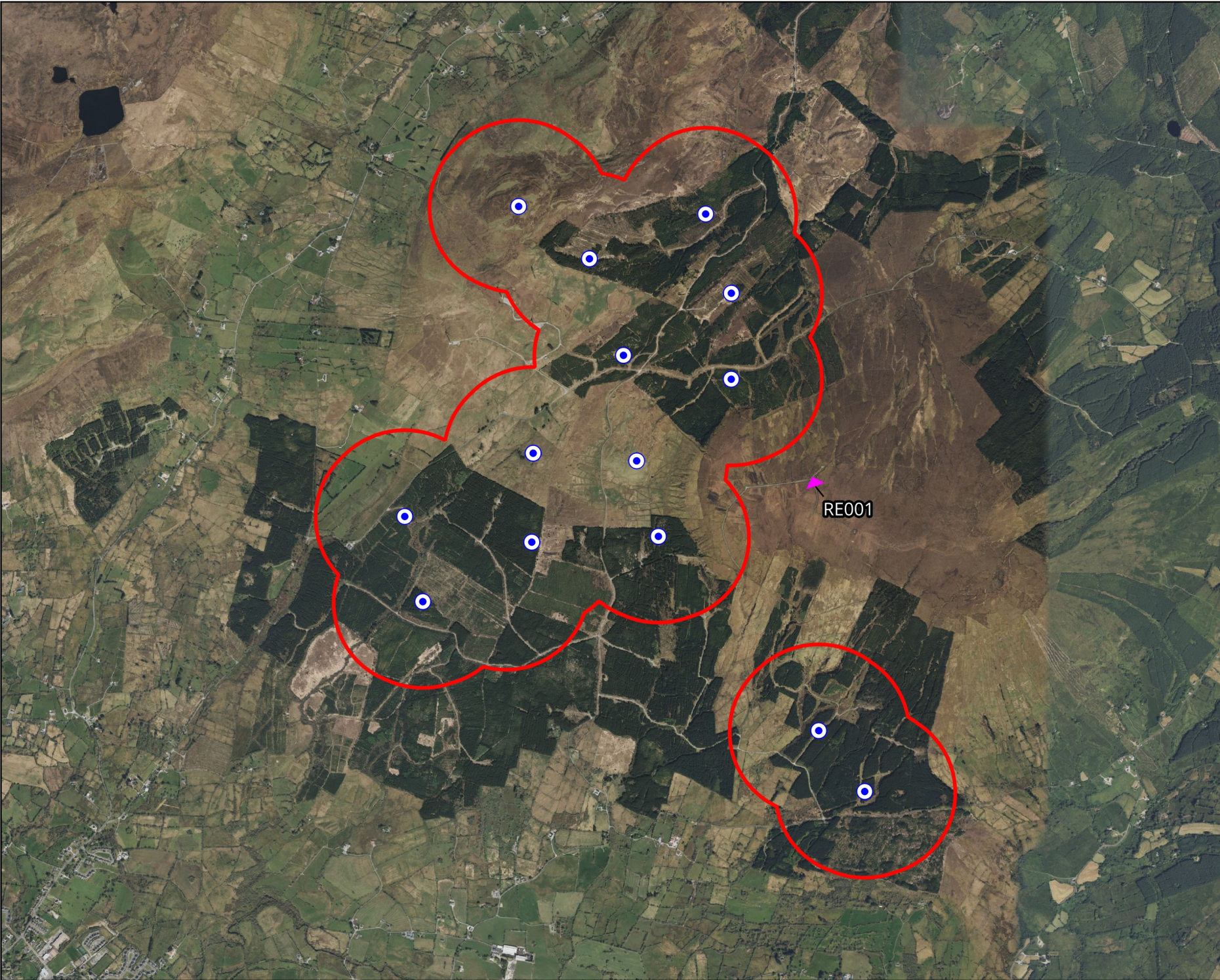
Project Title
Lissinagroagh Wind Farm

Drawn By JvD	Checked By PM
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Project No. 200217-k	Drawing No. Fig. 19
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Scale 1:30,000	Date 13/03/2026
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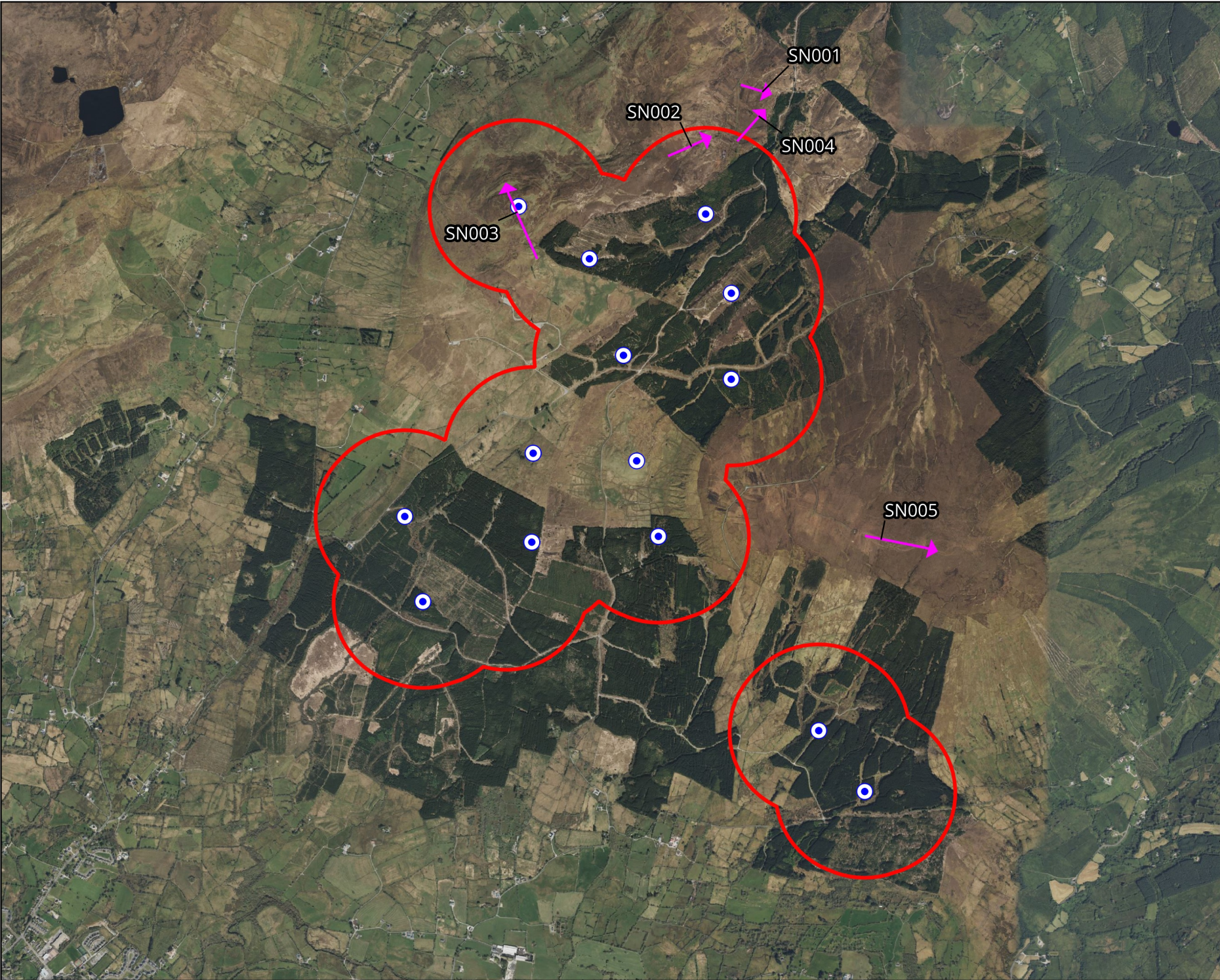


Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Redwing Observations Winter Walkover Surveys	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 21
Scale	Date
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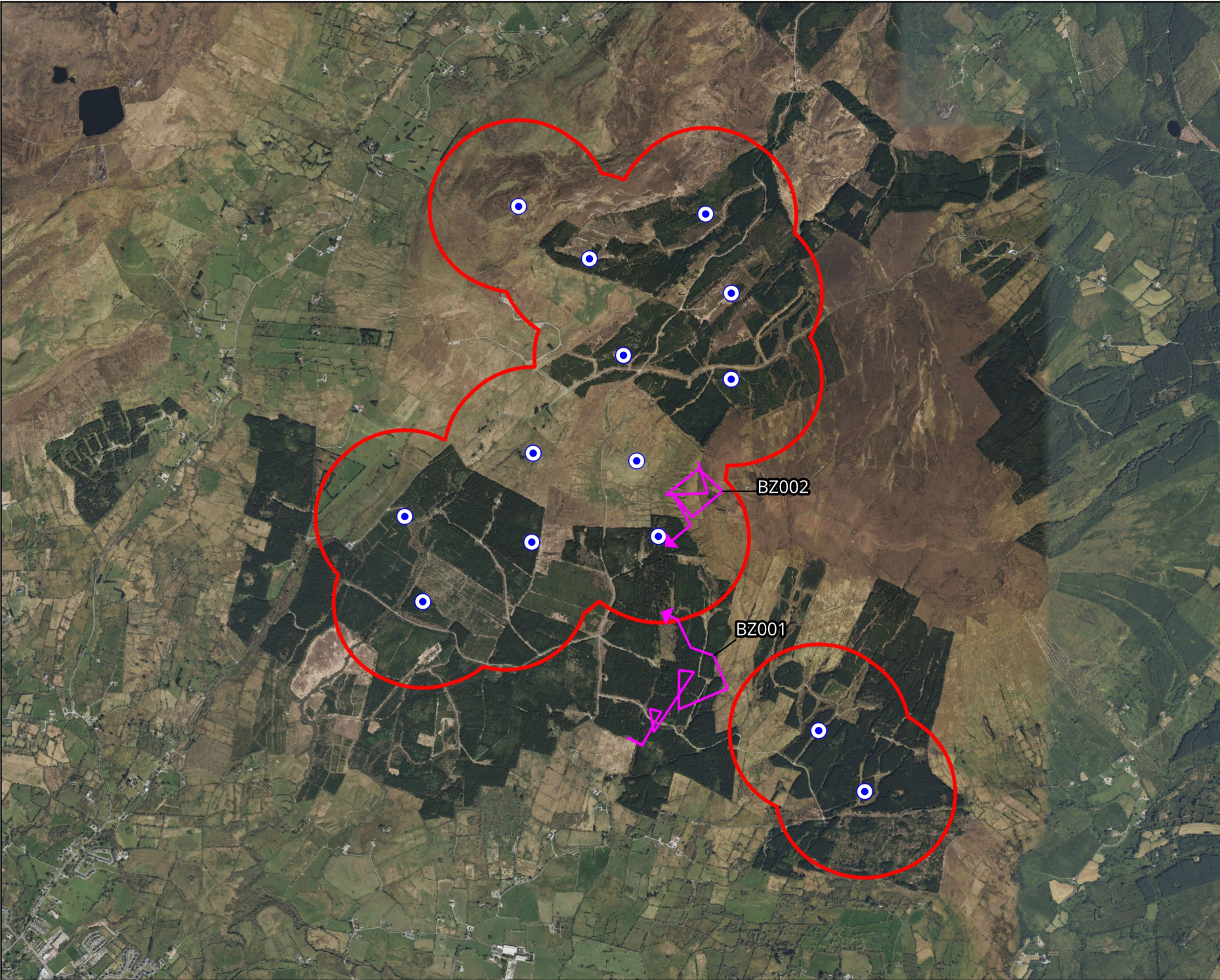


Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title	
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Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 22
Scale	Date
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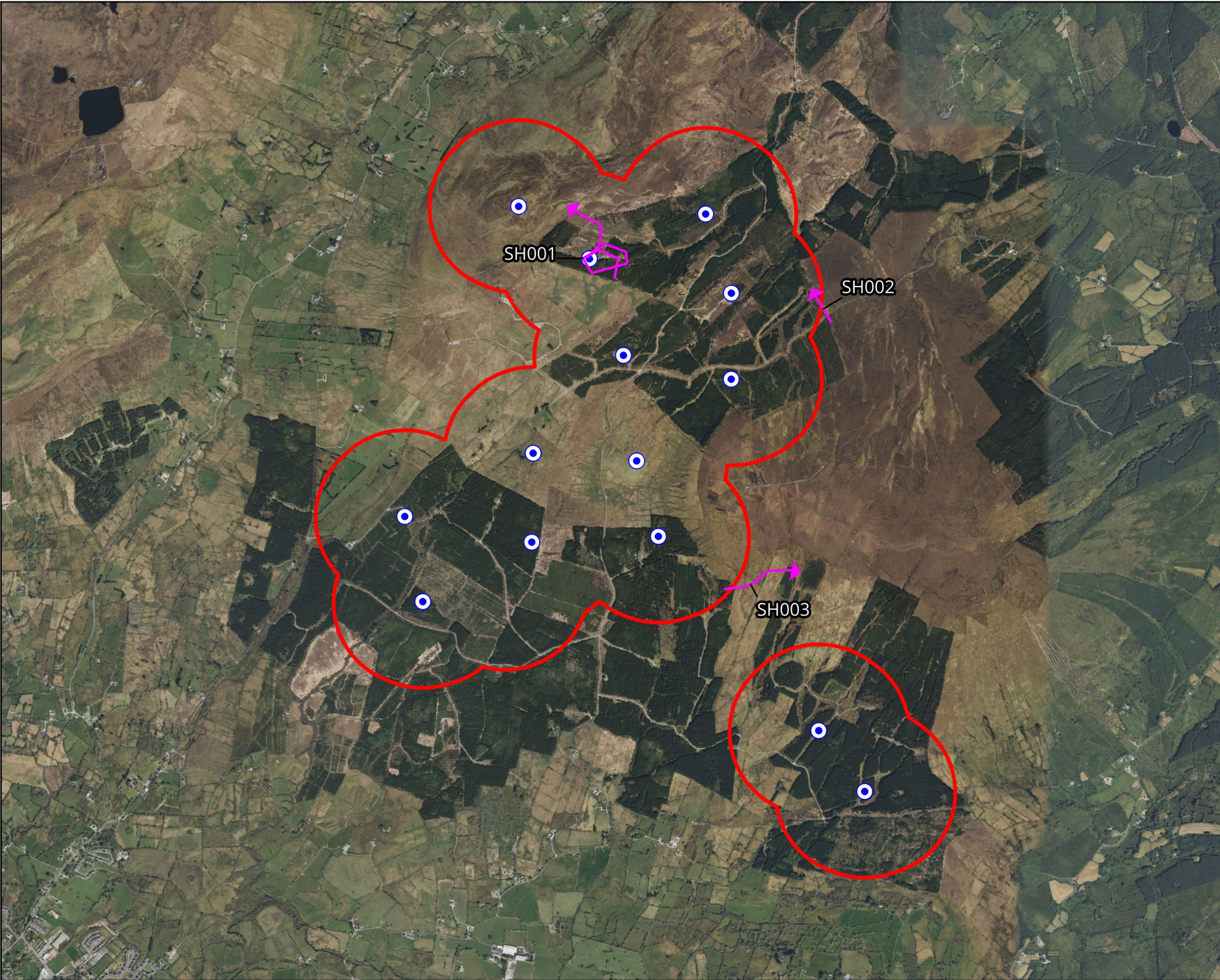


Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Buzzard Observations Winter Walkover Surveys	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 23
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Map Legend

-  Study Area
-  500m Survey Radius
-  Proposed Turbine Location
-  Flightline



Drawing Title

Sparrowhawk Observations
Winter Walkover Surveys

Project Title

Lissinagroagh Wind Farm

Drawn By Checked By

JvD PM

Project No. Drawing No.

200217-k Fig. 24

Scale Date

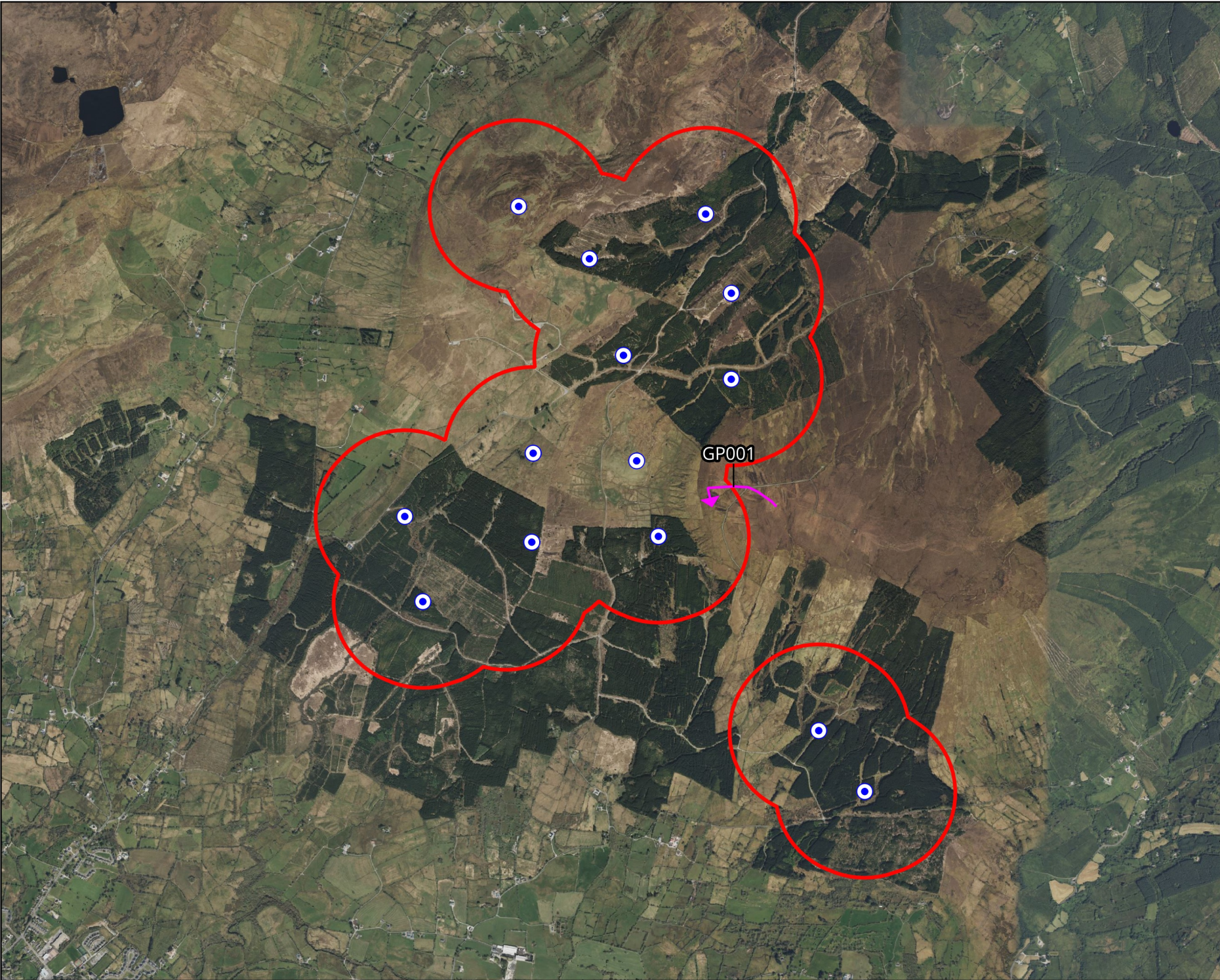
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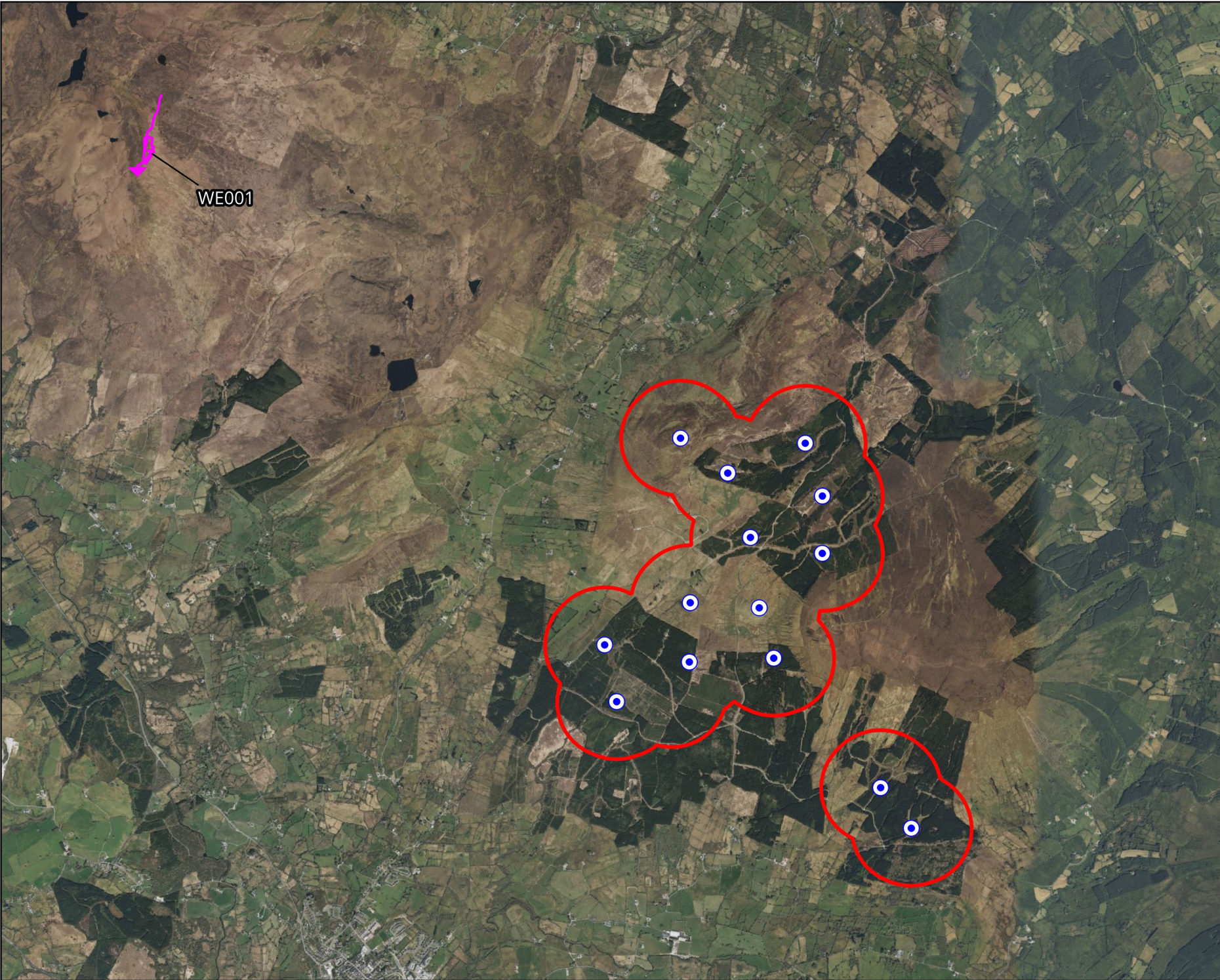


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Golden Plover Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 25
Scale	Date
1:30,000	13/03/2026
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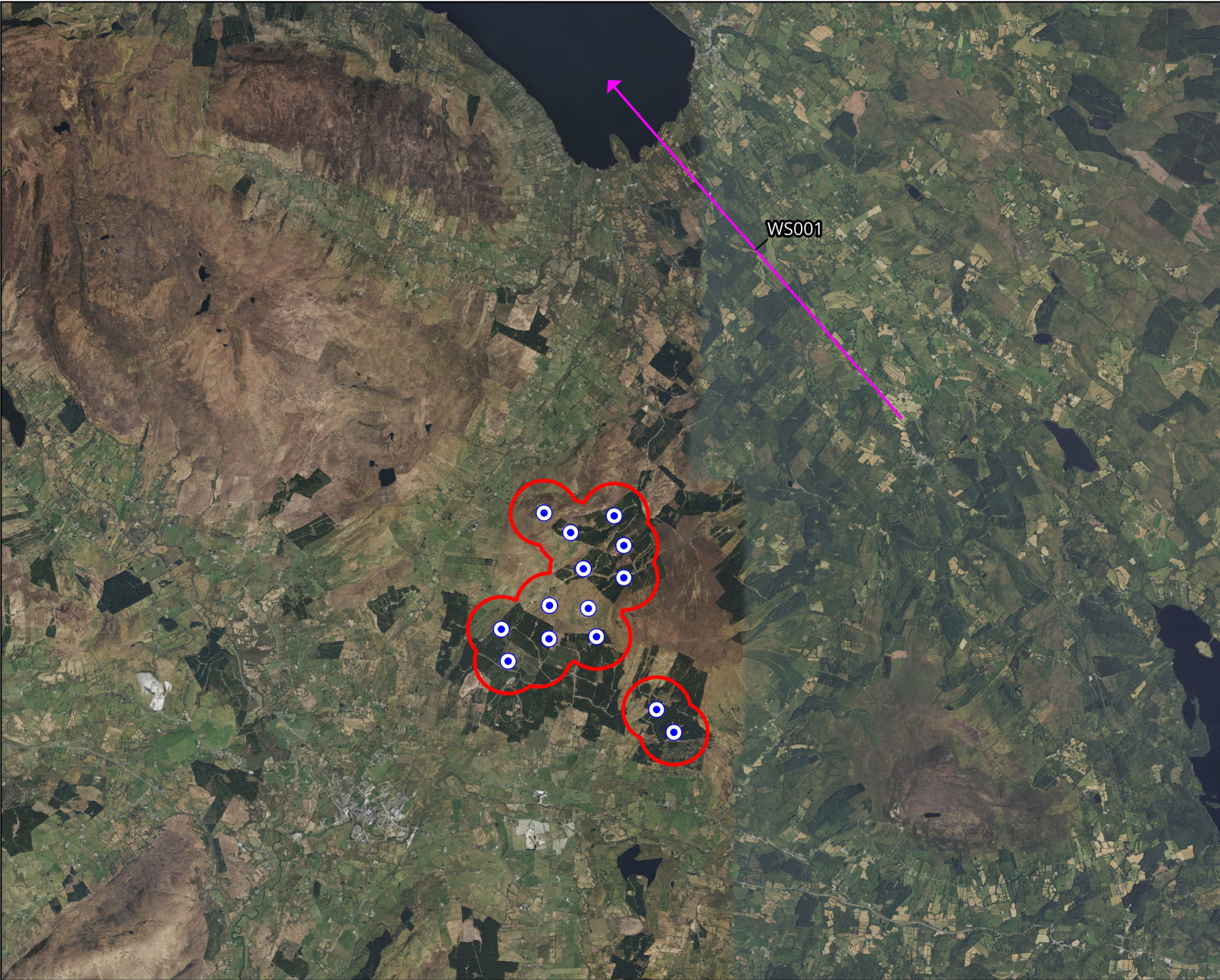


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
White-tailed Eagle Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
JvD	PM
Project No.	Drawing No.
200217-k	Fig. 26
Scale	Date
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title

Whooper Swan
Incidental Observations

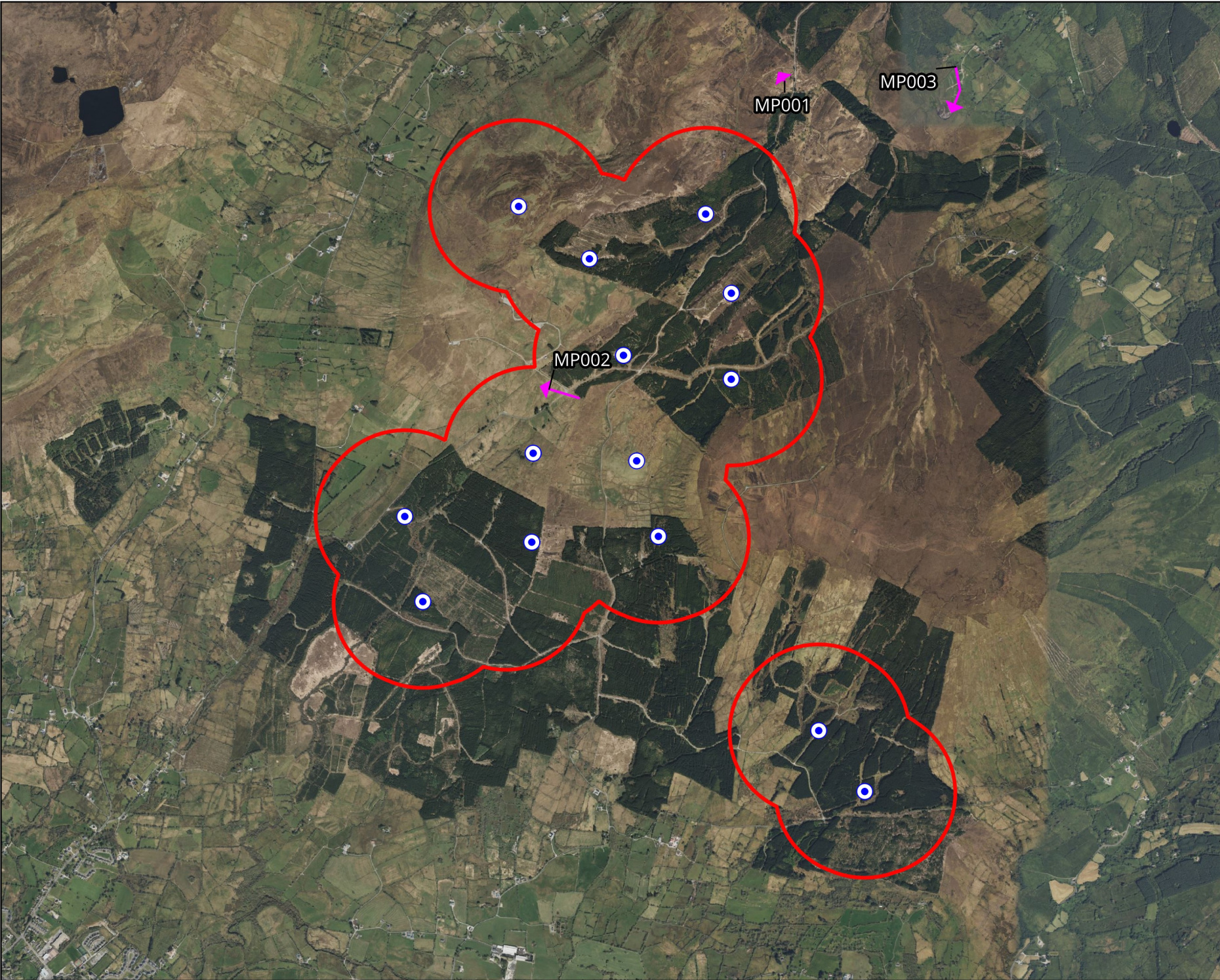
Project Title

Lissinagroagh Wind Farm

Drawn By	Checked By
SM	PM
Project No.	Drawing No.
200217-k	Fig. 27
Scale	Date
1:80,000	13/03/2026

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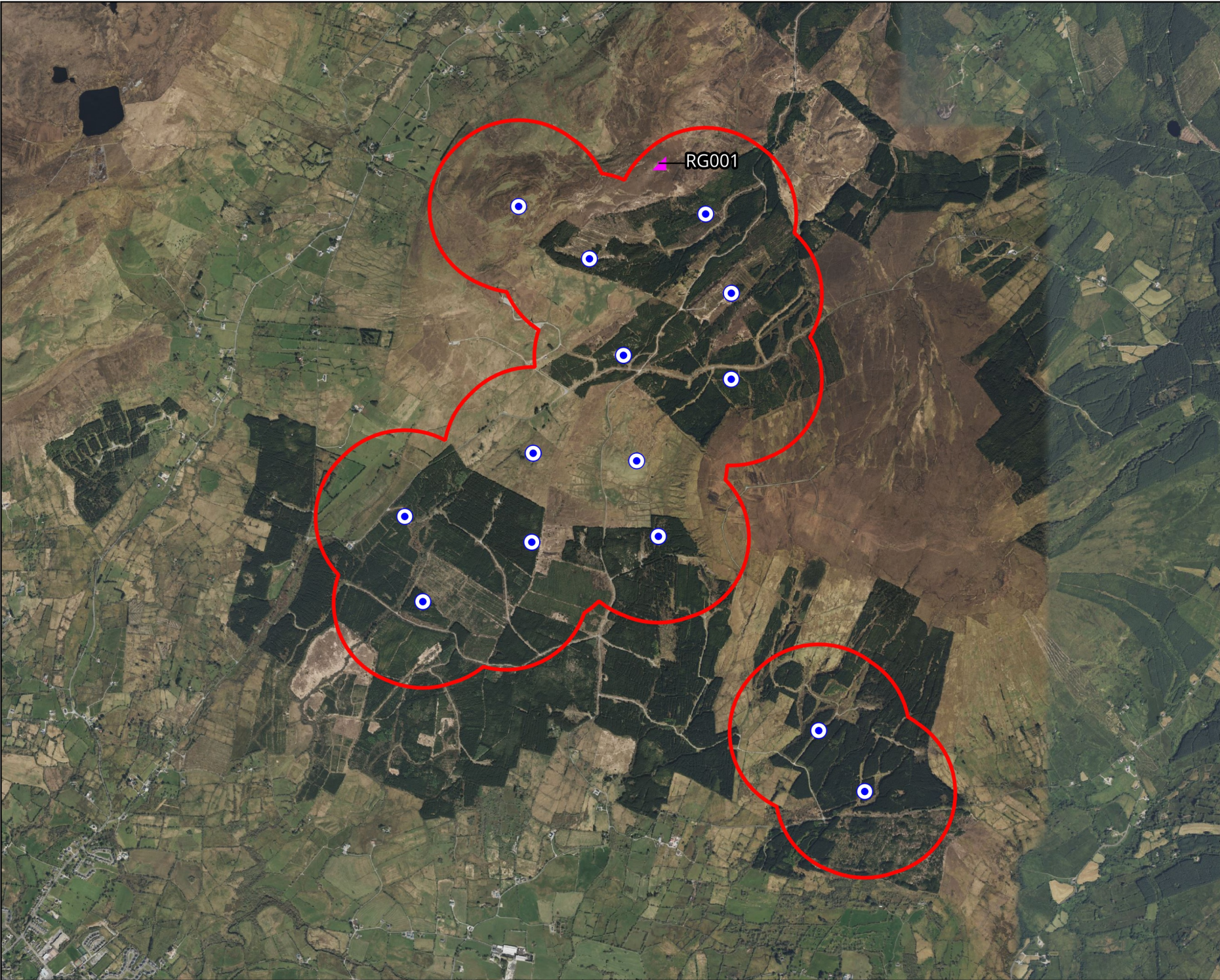


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Meadow Pipit Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
SM	PM
Project No.	Drawing No.
200217-k	Fig. 28
Scale	Date
1:30,000	13/03/2026
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Red Grouse Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
SM	PM
Project No.	Drawing No.
200217-k	Fig. 29
Scale	Date
1:30,000	13/03/2026
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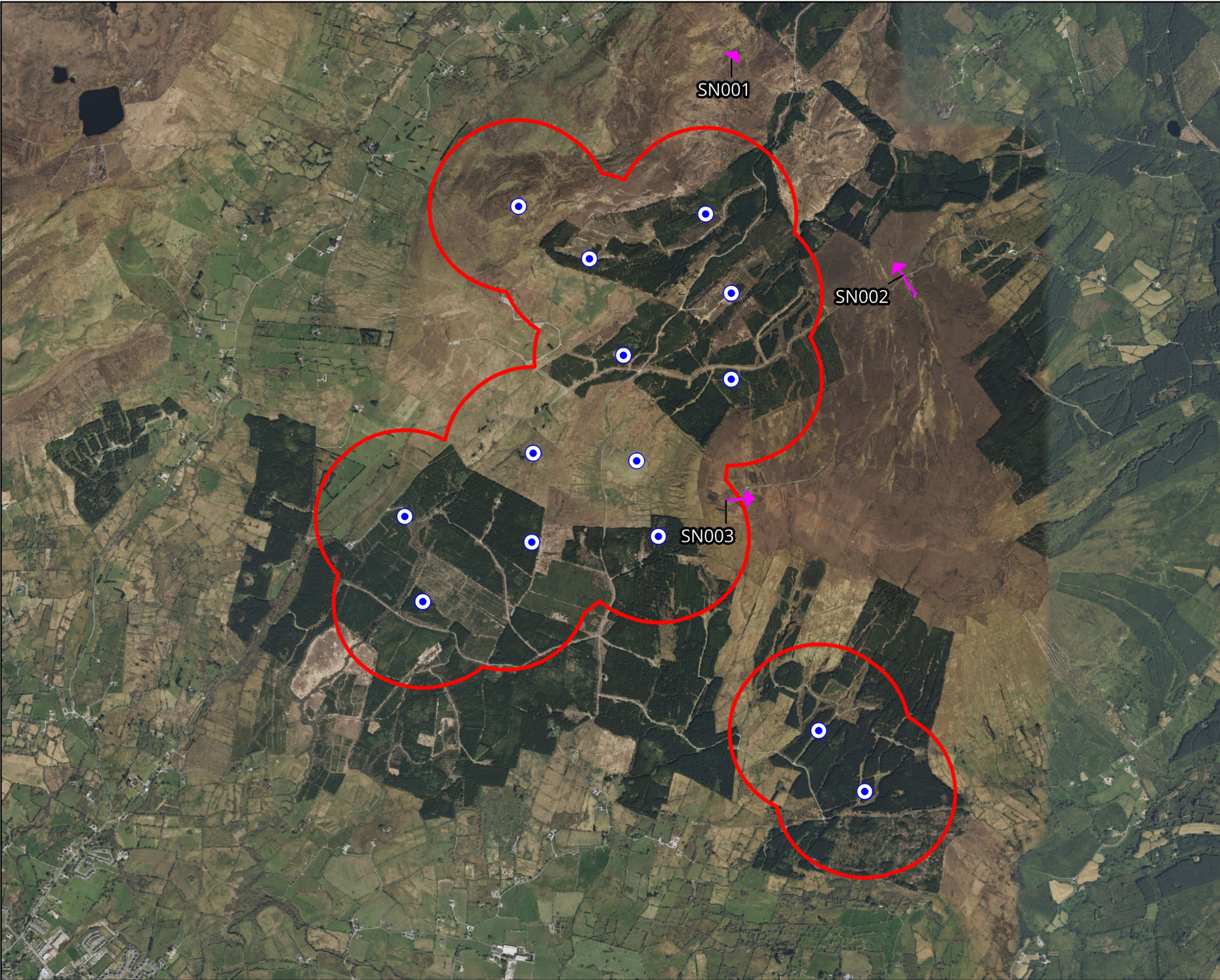


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Redwing Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
SM	PM
Project No.	Drawing No.
200217-k	Fig. 30
Scale	Date
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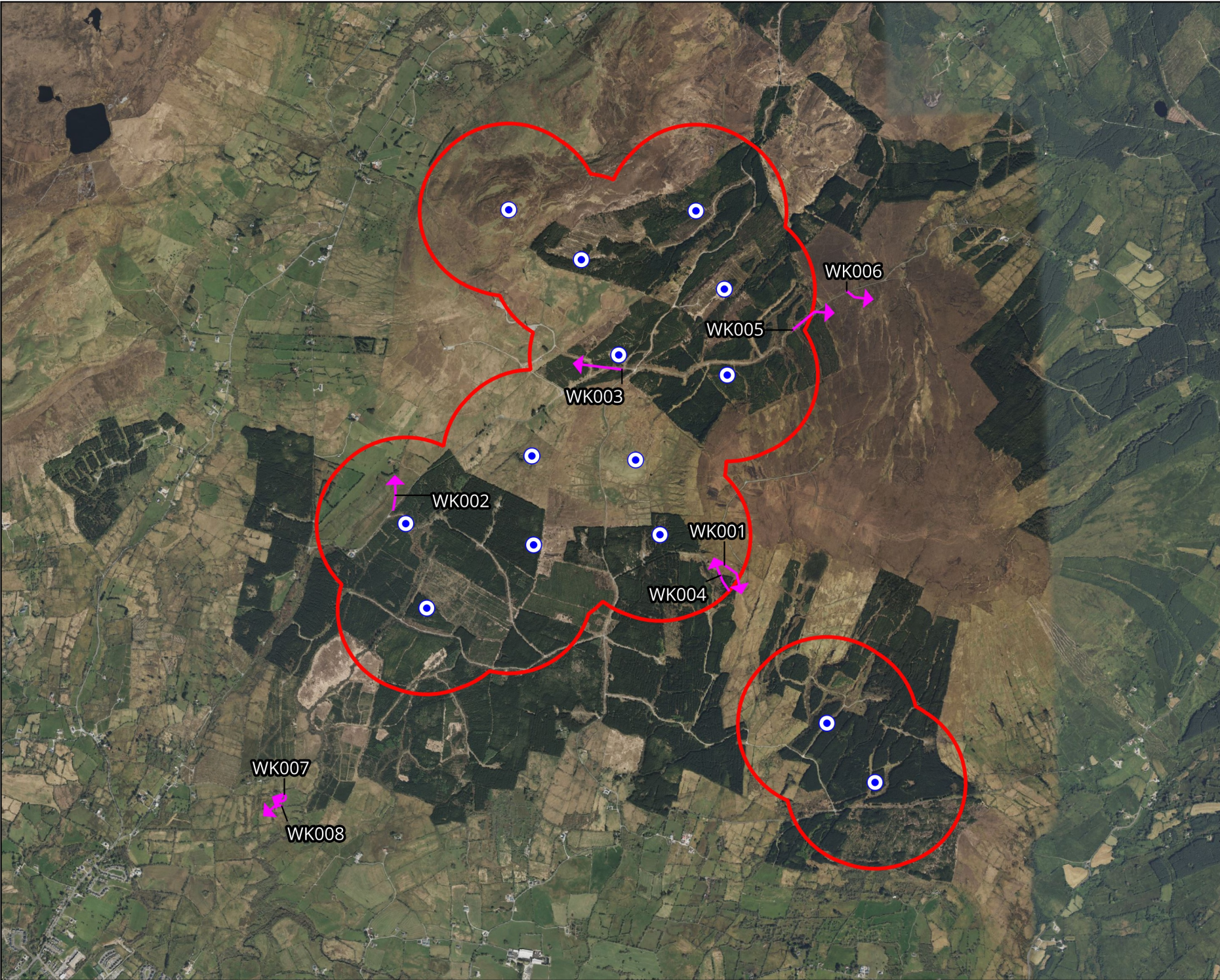


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Common Snipe Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
SM	PM
Project No.	Drawing No.
200217-k	Fig. 31
Scale	Date
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title

Woodcock
Incidental Observations

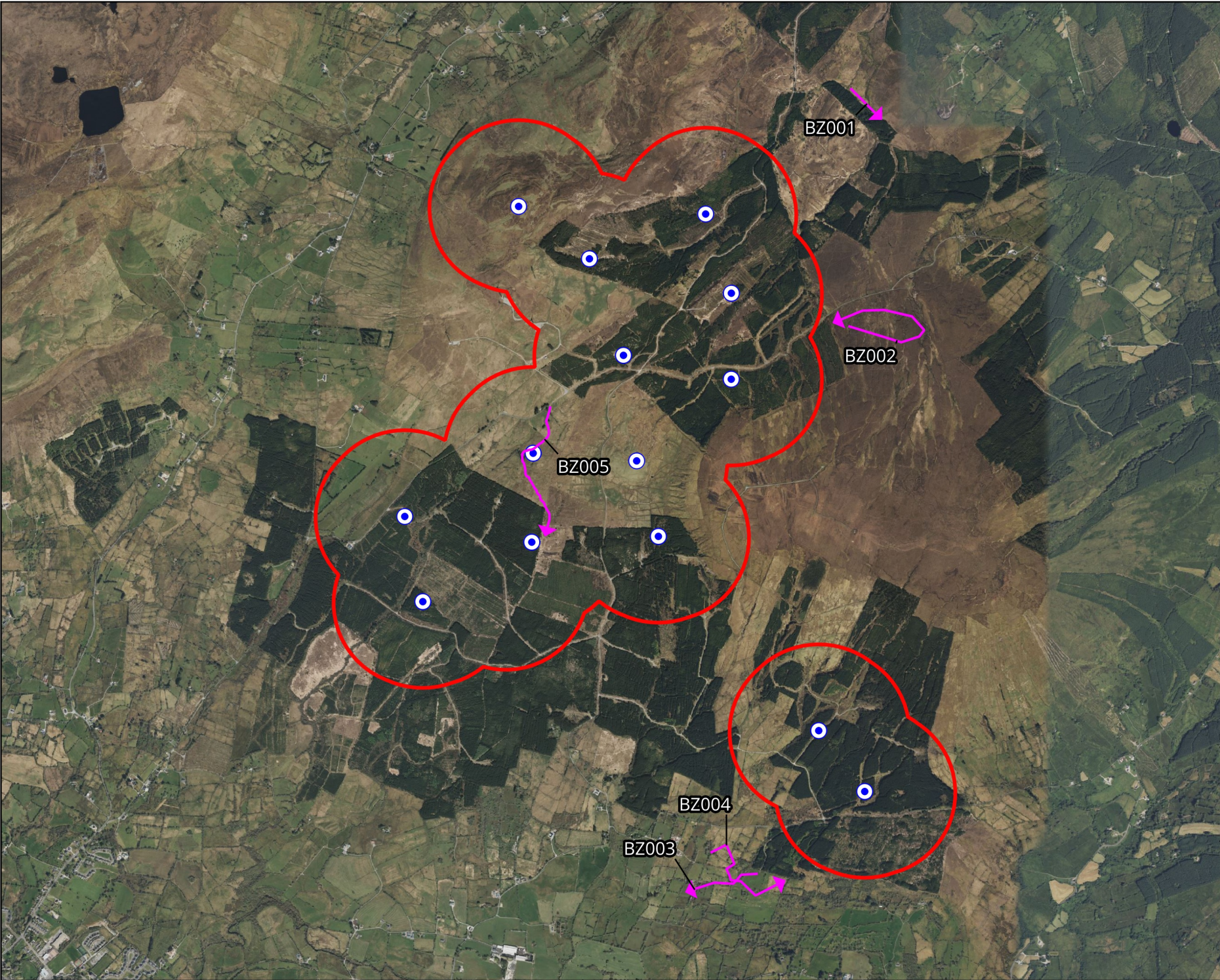
Project Title

Lissinagroagh Wind Farm

Drawn By	Checked By
SM	WK
Project No.	Drawing No.
200217-k	Fig. 32
Scale	Date
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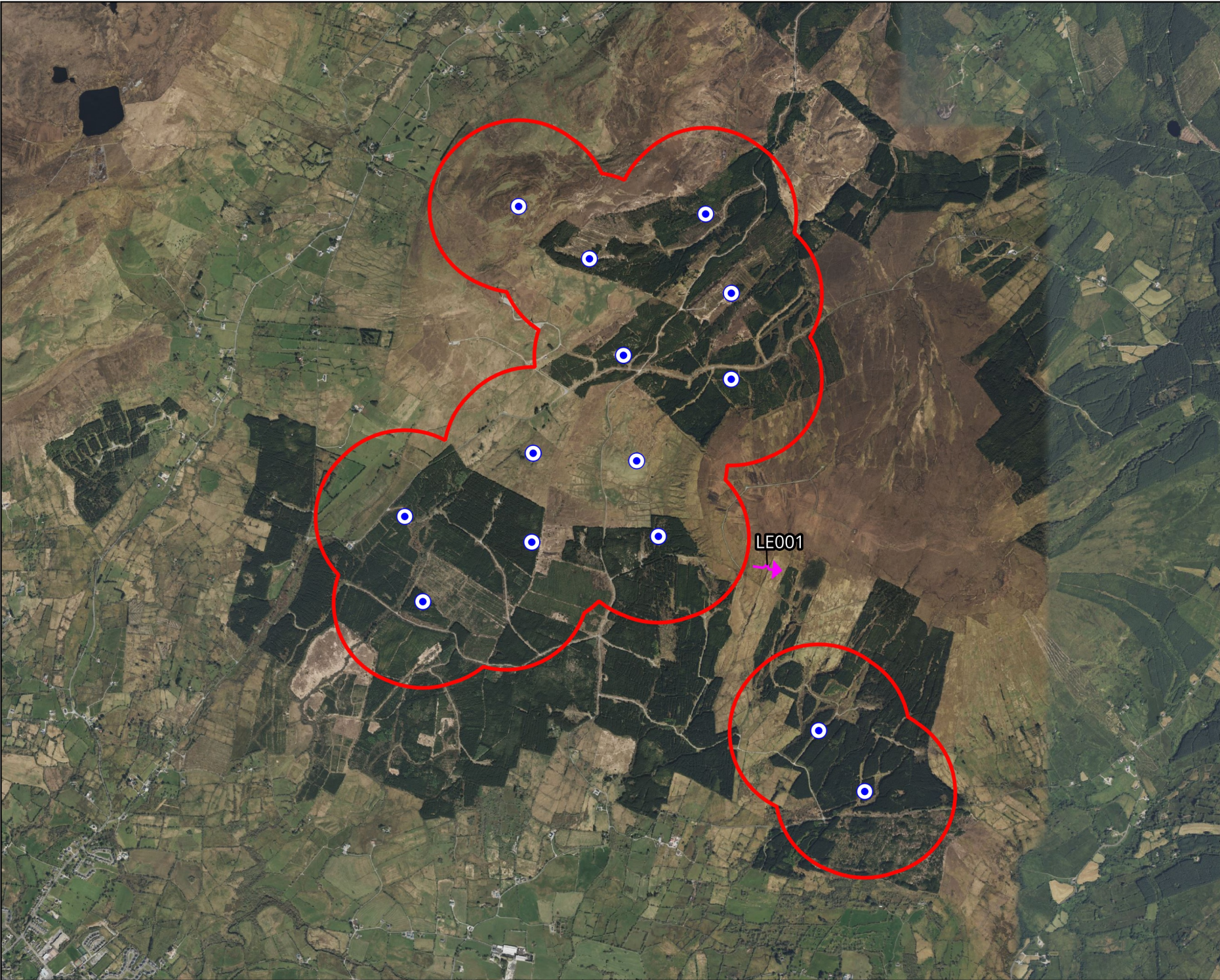


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Buzzard Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
SM	PM
Project No.	Drawing No.
200217-k	Fig. 33
Scale	Date
1:30,000	13/03/2026
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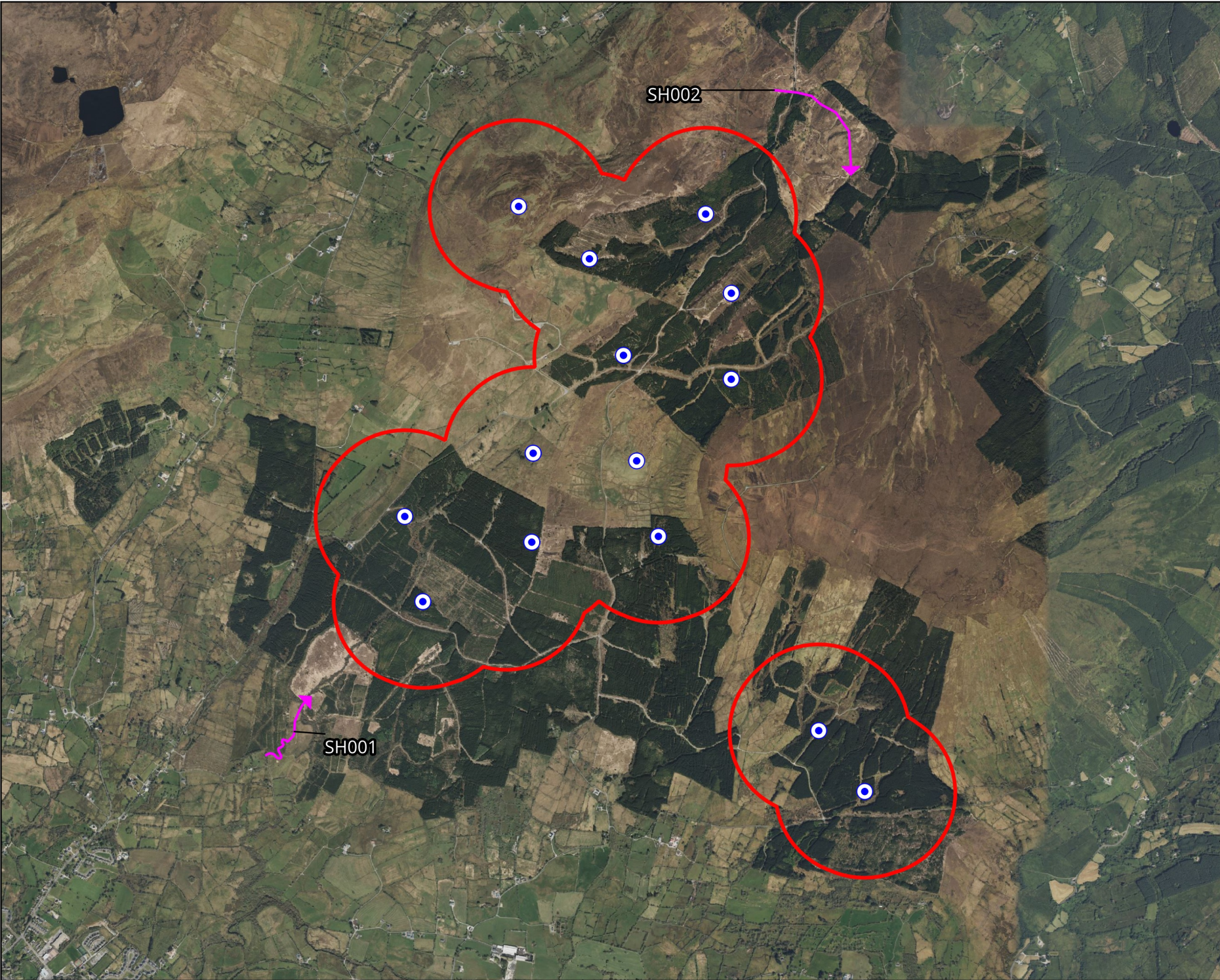


Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Long-eared Owl Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
SM	PM
Project No.	Drawing No.
200217-k	Fig. 34
Scale	Date
1:30,000	13/03/2026
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Map Legend

-  Study Area
-  Proposed Turbine Location
-  Flightline



Drawing Title	
Sparrowhawk Incidental Observations	
Project Title	
Lissinagroagh Wind Farm	
Drawn By	Checked By
SM	PM
Project No.	Drawing No.
200217-k	Fig. 35
Scale	Date
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APPENDIX 3

CONFIDENTIAL SURVEY DATA

APPENDIX B

Appendix 9-3



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Consultants

 **awnconsulting**

Background Noise Survey

Project Title: Lissingagroagh Wind Farm, Co Leitrim

CLIENT

Tobin Consulting
Engineers

DOCUMENT REFERENCE

237501.0727NR01a

DATE

28 August 2026

DOCUMENT CONTROL SHEET

Document Control Sheet		
Our Reference	237501.0727NR01a	
Original Issue Date	29 April 2026	
Client:	Tobin Consulting Engineers	
Client Address:	Fairgreen House, Fairgreen Road, Galway	
Revision	Revision Date	Description
a	2 September 2026	Corrections and Updates based on comments in Submissions

Details	Written by	Approved by
Signature		
Name	Mike Simms	Dermot Blunnie
Qualifications	BE MEngSc MIOA	BEng (Hons) MSc MIOA MIEI
Title	Principal Acoustic Consultant	Associate
Date	2 September 2026	

Disclaimer

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1. INTRODUCTION

This note has been prepared to provide details and methodology of the background noise survey undertaken and confirm the derived background noise levels the various Noise Monitoring Locations (NMLs), for the Proposed Project.

2. BACKGROUND NOISE SURVEY

The noise survey and subsequent data analysis was carried out in accordance with best practice following the guidance contained in the Institute of Acoustics publication *A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise* (May 2013), (IOA GPG).

2.1 Measurement Locations

The background noise survey was conducted through installing unattended sound level meters at 11 no. representative locations in the surrounding area. The co-ordinates for selected locations for the noise monitoring locations are outlined in Table 2-1 and identified on a map in Figure 2-1.

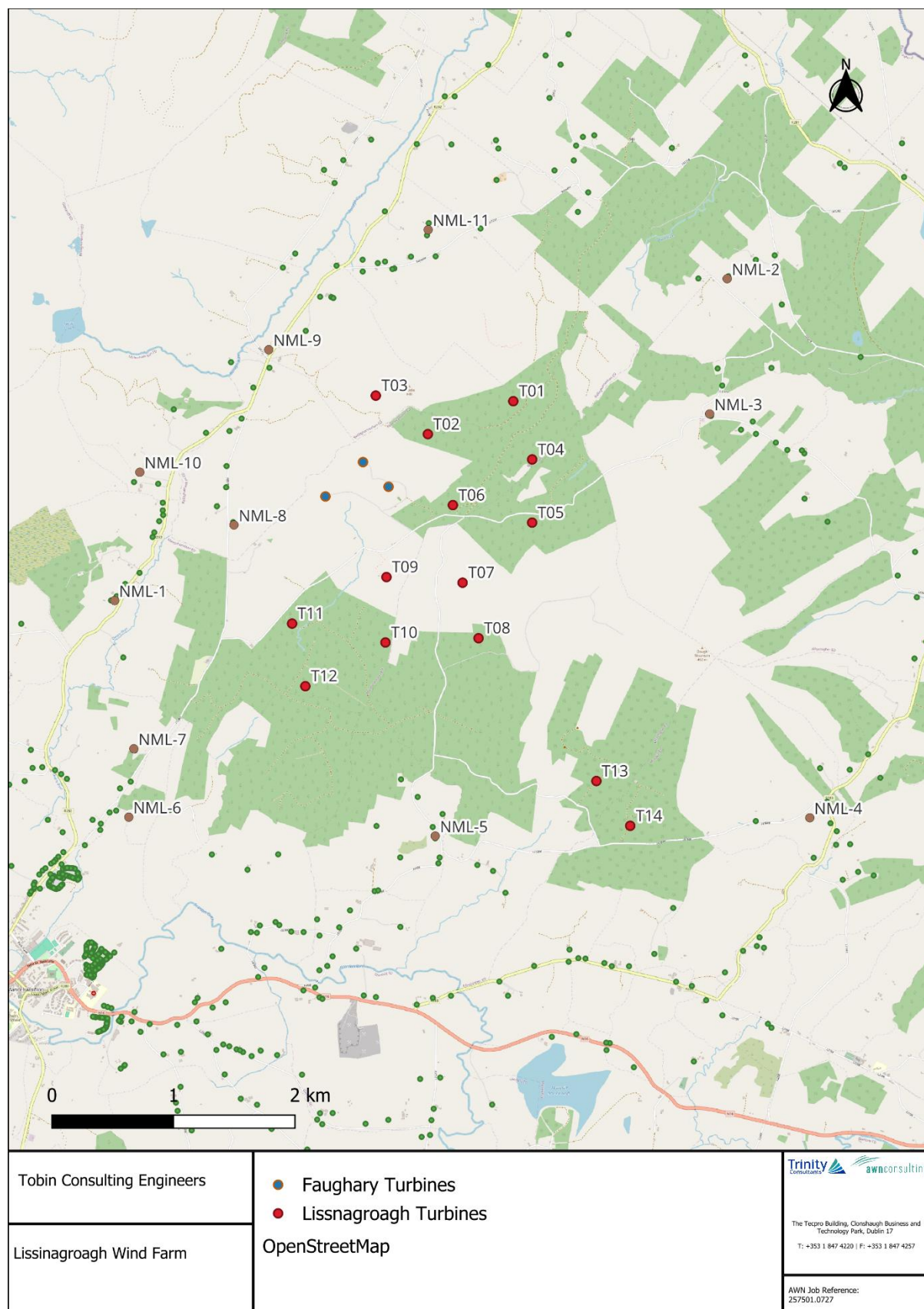
Table 2-1. Coordinates of Noise Monitoring Equipment

Location	Coordinates (ITM)	
	Easting	Northing
NML-1 (H0677)	589316	842690
NML-2 (H0842)	594356	845338
NML-3 (H0920)	594212	844226
NML-4 (H0565)	595036	840903
NML-5 (H0475)	591954	840753
NML-6 (H1487)	589433	840908
NML-7 (H0857)	589474	841471
NML-8 (H0046)	590298	841471
NML-9 (H0358)	590584	844754
NML-10 (H0759)	589523	843746
NML-11 (H1198)	591896	845741

Site visits by survey personnel were carried out during morning and afternoon periods; during these visits, primary noise sources contributing to noise environment were noted as being distant traffic movements, activity in and around the residences and wind generated noise from local foliage and other typical anthropogenic sources typically found in such rural settings.

There were no perceptible sources of vibration noted at any of the survey locations

Figure 2-1. Noise Monitoring Locations



2.2 Measurement Periods

The periods of noise measurements used in the background noise monitoring assessment are outlined in Table 2-2. The survey was deemed completed when an adequate number of datasets had been measured as recommended in the IOA GPG to determine a suitable representation of the typical background noise.

Table 2-2. Measurement periods of Noise Monitoring Equipment

Location Reference	Survey Period	
	Start Date	End Date
NML-1 (H0677)	13:30 hrs on 22 Sept 2021	10:10 hrs on 18 Nov 2021
NML-2 (H0842)	13:20 hrs on 18 Nov 2021	12:50 hrs on 9 Dec 2021
NML-3 (H0920)	13:00 hrs on 22 Sept 2021	12:40 hrs on 18 Nov 2021
NML-4 (H0565)	14:50 hrs on 18 Nov 2021	13:30 hrs on 30 Nov 2021
NML-5 (H0475)	11:30 hrs on 22 Sept 2021	13:00 hrs on 18 Nov 2021
NML-6 (H1487)	10:40 hrs on 18 Nov 2021	11:20 hrs on 9 Dec 2021
NML-7 (H0857)	11:00 hrs on 18 Nov 2021	11:50 hrs on 9 Dec 2021
NML-8 (H0046)	12:10 hrs on 22 Sept 2021	11:20 hrs on 18 Nov 2021
NML-9 (H0358)	10:50 hrs on 22 Sept 2021	09:50 hrs on 18 Nov 2021
NML-10 (H0759)	11:40 hrs on 18 Nov 2021	19:30 hrs on 1 Dec 2021
NML-11 (H1198)	12:10 hrs on 18 Nov 2021	12:30 hrs on 9 Dec 2021

At NML-5 the SLM (SN: 164426) was removed on 14 October 2026 and replaced with another SLM (SN: 186668) on 4 November 2026.

2.3 Measurement Procedure

Table 2-2. Data samples for all measurements (noise, rainfall, and wind) were logged continuously at 10-minute interval periods for the duration of the survey. The $L_{Aeq,10min}$ and $L_{A90,10min}$ noise parameters were measured in this instance, and the results were saved to the instrument memory for later analysis.

Survey personnel noted potential primary noise sources contributing to noise build-up during the installation and removal of the sound level meters from site.

2.4 Instrumentation

Table 2-3 confirms the details of the noise monitoring instrumentation installed at each location. Calibration certificates are provided in Appendix D.

Table 2-3. Details of Noise Measurement Instrumentation

Location Reference	Equipment Make and Model	Serial Number
NML-1 (H0677)	RION – NL-52	186671
NML-2 (H0842)	RION – NL-52	976162
NML-3 (H0920)	RION – NL-52	976162
NML-4 (H0565)	RION – NL-52	186671
NML-5 (H0475)	RION – NL-52	164426 & 186668
NML-6 (H1487)	RION – NL-52	586940
NML-7 (H0857)	RION – NL-52	186668
NML-8 (H0046)	RION – NL-52	564809

Location Reference	Equipment Make and Model	Serial Number
NML-9 (H0358)	RION – NL-52	586940
NML-10 (H0759)	RION – NL-52	564809
NML-11 (H1198)	RION – NL-52	998413

Before and after the survey the measurement apparatus was check calibrated using a Brüel & Kjær type 4231 Sound Level Calibrator where appropriate. Instruments were calibrated on each interim visit and any drift noted. All calibration drifts were less than ± 0.2 dB and within acceptable tolerances outlined in the IOA GPG.

2.5 Rainfall Data

Rain fall was monitored and logged using a Texas Instruments TR-525 console and a data logger that was installed on-site for the duration of the surveys. This allows for the identification of periods of rain fall to allow for the removal sample periods affect by rainfall from the noise monitoring data sets in line with best practice when calculating the prevailing background noise levels.

2.6 Wind Data

Wind data was measured at a meteorological mast located within the site of the proposed development and was supplied to AWN for data analysis.

2.6.1 Wind Shear

Wind speed collected at 90 m and 75 m were used to correct the wind speed up to an assessment hub height (HH) at 103.5 m, as per the methodology outlined in the IOA GPG.

The calculated HH wind speeds were then corrected to the 'standardised' 10 m height wind speed in accordance with the IOA GPG. The 'standardised' wind speed is the industry standard for referencing wind speeds with respect to wind turbines.

The calculated hub height wind speeds have been corrected standardised to 10 m height using a fixed correction. The standardised is a wind speed measured at a height different than 10 m (generally measured at the turbine hub height) which is expressed to a reference height of 10 m using a roughness length of 0.05 for standardisation purpose in accordance with the IEC 61400-11 standard:

Roughness Length Shear Profile: $U_1 = U_2 \times [(\ln(H_1/z)) / (\ln(H_2/z))]$

Where:

H_1	The height of the wind speed to be calculated (10m)
H_2	The height of the measured or calculated HH wind speed.
U_1	The wind speed to be calculated.
U_2	The measured or calculated HH wind speed.
Z	The roughness length.

Note: A roughness length of 0.05m is used to standardise hub height wind speeds to 10m height in the IEC 61400-11:2003 standard, regardless of what the actual roughness length seen on a site may have been. This 'normalisation' procedure was adopted for comparability between test results for different turbines.

Any reference to wind speed in this chapter should be understood to be the standardised 10 m height wind speed unless otherwise stated.

Figure 2-2 presents the distributions of the measured wind speed and wind direction over the survey period.

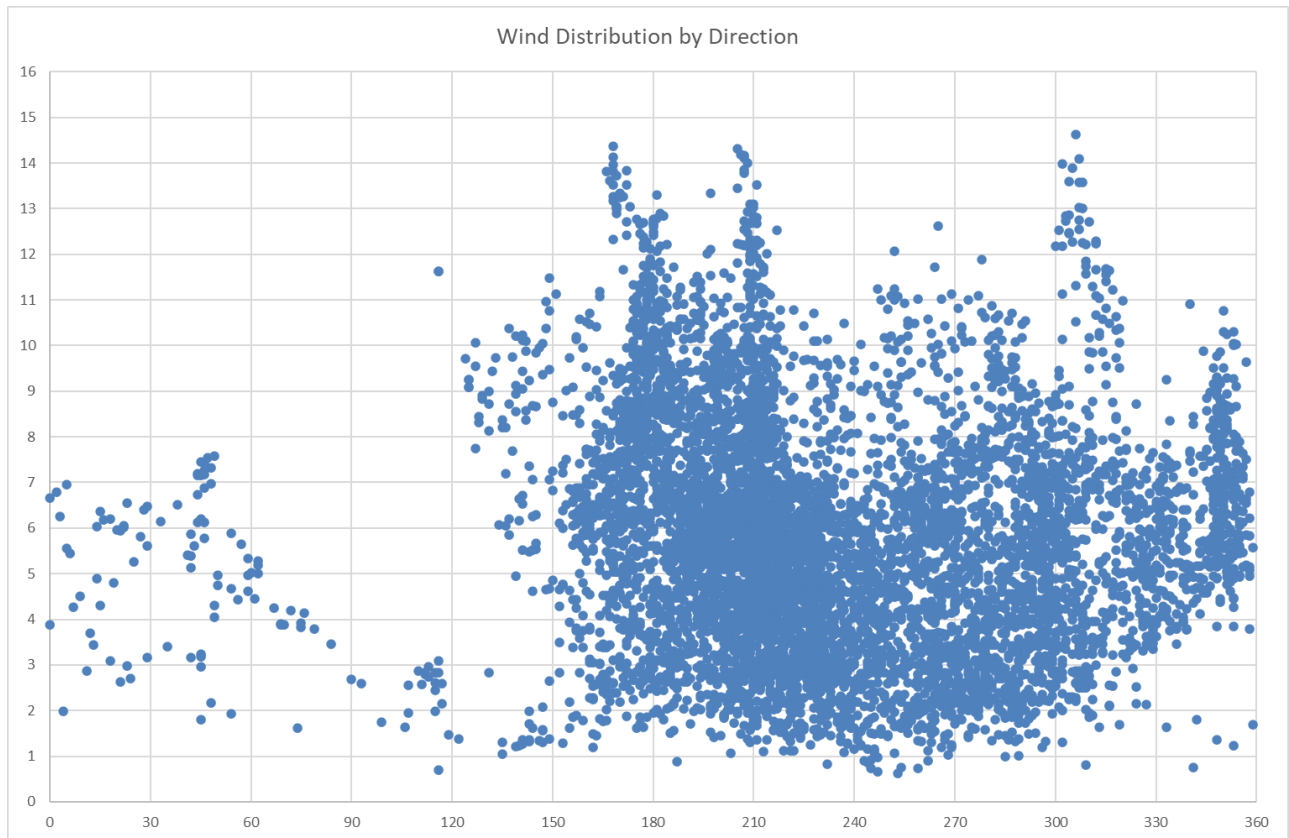


Figure 2-2. Distributions of Wind Speeds and Directions Over the Survey Period 22 Sept to 18 Nov 2021

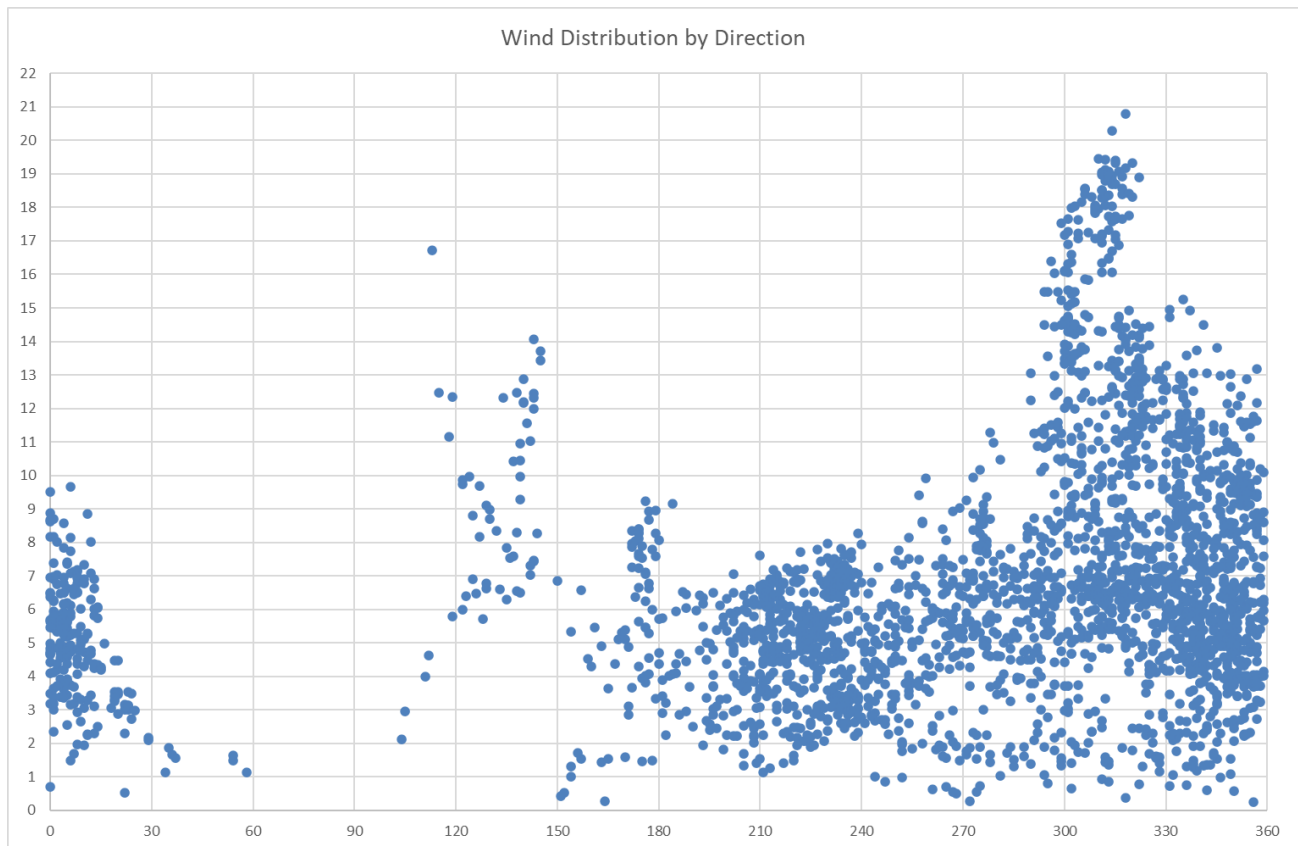


Figure 2-3. Distributions of Wind Speeds and Directions Over the Survey Period 18 Nov to 9 Dec 2021

2.7 Selection of Measurement Locations and Methodology

The purpose of the noise survey is to determine the background noise at representative noise sensitive locations (NSLs) within the receiving environment surrounding the Proposed Wind Farm site.

The survey locations were identified with consideration of the potential turbine noise contribution from the Proposed Wind Farm assessed using noise prediction modelling and supported by reviewing aerial images and street side images where available on website e.g., Google Earth and Bing Maps.

The assessment methodology in the EIAR is in accordance with the Institute of Acoustics document A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise (2013) hereafter referred to as the IOA GPG.

The following text summaries the guidance from the IOA GPG for the selection of background noise survey locations:

- ▶ The selection of suitable noise monitoring locations for background noise surveys is not straightforward and only general guidance can be given as it is not possible to be prescriptive.
- ▶ Often there are practical constraints on where equipment can be placed, and a considerable degree of experience-based judgement is required when selecting these positions.
- ▶ Any contribution to background noise levels of noise from an existing wind farm must be excluded when assigning background noise and setting noise limits for a new development.

- No general guidance can therefore be given on the number of measurement locations as this will be site-specific.

A robust assessment of the noise impacts of the wind farm necessitates a detailed survey of the background noise at houses in the vicinity of the Proposed Wind Farm.

2.8 Data Analysis

The following sections present a summary of the statistical analysis carried out on the noise monitoring data to derive the background noise curves at each NML. Background noise data sets can be re-analysed for various scenarios should this be required, for instance, if the proposed HH changes or alternative hub heights are considered.

2.8.1 Assessment Periods

The results presented in the following sections refer to the noise data collated during 'quiet periods' of the day and night as defined in the IOA GPG. These periods are defined in Table 2-4.

Table 2-4. Daytime and Night Periods

Period Description	Period Definition
Daytime (Amenity Hours)	ETSU-R-97 defines the amenity hours as: 18.00 to 23.00 Monday to Friday. 13.00 to 23.00 on Saturdays; and, 07.00 to 23.00 on Sundays.
Night	ETSU-R-97 defines the night-time hours as 23.00 to 07.00 every day

The data sets have been assessed separately for both daytime and night-time periods as outlined in Table 3 and analysed with respect to the methods outlined in the IOA GPG.

2.8.2 Atypical Noise Data

The data sets have been filtered to remove issues such as the dawn chorus and the influence of other atypical noise sources. An example of atypical sources would be short, isolated periods of raised noise levels attributable to local sources, vehicles, agricultural activity, boiler flues, operation of gardening equipment etc. In addition, sample periods affected by rainfall or when rainfall resulted in prolonged periods of atypical noise levels have also been removed from the data sets. This approach is in line with the guidance contained in the IOA GPG.

In accordance with the guidance, noise from existing operational windfarms must not form part of the background noise. The data sets collected at all locations have been directionally filtered to exclude periods where the measurement locations were downwind of Faughary Wind Farm. As such, the lowest background noise conditions are captured to provide a worst-case assessment.

2.9 Derived Background Noise Levels

The derived background noise levels dB $L_{A90,10min}$ for daytime and nighttime are presented in Table 2-5 and Table 2-6 respectively. These levels have been derived using regression analysis carried out on the data sets measured in line with best practice guidance contained in the IOA GPG and its SGN No. 2 Data Collection; Background noise levels are calculated based on the assessment hub height of 103.5 m. Appendix C presents the regression analysis charts for daytime and night-time periods from each NML.

These background noise levels will be used to determine the appropriate turbine noise limits in accordance with the adopted turbine noise criteria as set out in Chapter 12 (Noise and Vibration) of the EIAR.

Table 2-5. Derived Background Noise Levels at Assessment Hub Height - Daytime

Locations	Period	Background Noise Levels dB L _{A90} at standardised 10m height wind speed m/s for 103.5 m Hub Height							
		3	4	5	6	7	8	9	10
NML-1 (H0677)	Day	26.8	27.7	29.2	31.2	33.4	35.8	38.0	40.1
NML-2 (H0842)	Day	23.7	25.6	27.9	30.5	33.4	36.4	39.5	42.7
NML-3 (H0920)	Day	29.1	30.2	32.0	34.3	36.8	39.1	41.0	42.3
NML-4 (H0565)	Day	26.4	27.1	28.1	29.4	30.8	32.2	33.6	34.8
NML-5 (H0475)	Day	35.3	35.1	36.1	37.8	39.9	42.1	44.1	45.4
NML-6 (H1487)	Day	30.9	31.7	32.6	33.8	35.1	36.5	38.1	39.8
NML-7 (H0857)	Day	30.1	31.0	32.2	33.6	35.1	36.8	38.6	40.5
NML-8 (H0046)	Day	26.0	27.6	29.7	31.1	33.2	35.9	38.4	40.6
NML-9 (H0358)	Day	30.7	32.0	33.8	35.8	38.0	40.1	41.8	41.8
NML-10 (H0759)	Day	39.2	39.6	40.3	41.4	42.7	44.3	46.2	48.4
NML-11 (H1198)	Day	28.6	29.8	31.1	32.6	34.3	36.1	38.0	39.9

Table 2-6. Derived Background Noise Levels at Assessment Hub Height – Night-time

Locations	Period	Background Noise Levels dB L _{A90} at standardised 10m height wind speed m/s for 103.5 m Hub Height							
		3	4	5	6	7	8	9	10
NML-1 (H0677)	Night	23.5	24.3	25.7	27.7	30.1	32.8	35.7	38.7
NML-2 (H0842)	Night	25.6	27.6	29.7	31.9	34.3	37.0	39.9	43.2
NML-3 (H0920)	Night	29.6	31.0	32.7	34.5	36.6	38.8	41.3	43.8
NML-4 (H0565)	Night	25.3	26.2	27.0	27.8	28.7	29.8	31.1	32.8
NML-5 (H0475)	Night	34.0	34.7	35.7	37.0	38.5	40.1	41.8	43.6
NML-6 (H1487)	Night	29.0	29.6	30.4	31.4	32.8	34.4	36.5	39.1
NML-7 (H0857)	Night	28.3	29.1	30.2	31.8	33.7	35.9	38.3	40.9
NML-8 (H0046)	Night	22.4	24.5	26.8	27.9	29.8	33.3	36.5	39.4
NML-9 (H0358)	Night	29.6	31.4	33.4	35.1	36.4	36.9	36.9	36.9

Locations	Period	Background Noise Levels dB L _{A90} at standardised 10m height wind speed m/s for 103.5 m Hub Height							
		3	4	5	6	7	8	9	10
NML-10 (H0759)	Night	38.9	39.2	39.8	40.6	41.8	43.1	44.7	46.6
NML-11 (H1198)	Night	27.2	28.8	30.4	31.9	33.4	35.1	36.9	39.0

APPENDIX A. GLOSSARY OF ACOUSTIC TERMS

Background noise	The noise level rarely fallen below in any given location over any given time period, often classed according to daytime, evening or night-time periods.
dB	Abbreviation for 'decibel'.
dB(A)	Abbreviation for the decibel level of a sound that has been A-weighted.
Dawn Chorus	Noise due to birds which can occur at sunrise.
Decibel	The unit normally employed to measure the magnitude of sound.
Directivity	The property of a sound source that causes more sound to be radiated in one direction than another.
L_{A90}	The noise level exceeded 90% of the time during a measurement period, often used for the measurement of background noise.
Level	The general term used to describe a sound once it has been converted into decibels.
Sound level meter	An instrument for measuring sound pressure level.

APPENDIX B. INSTALLATION PHOTOGRAPHS

Appendix Figure B-1. Location NML-1 Installation



Appendix Figure B-2. Location NML-2 Installation



Appendix Figure B-3. Location NML-3 Installation



Appendix Figure B-4. Location NML-4 Installation

Photograph not available for Location NML-4.

Appendix Figure B-5. Location NML-5 Installation



Appendix Figure B-6. Location NML-6 Installation



Appendix Figure B-7. Location NML-7 Installation



Appendix Figure B-8. Location NML-8 Installation



Appendix Figure B-9. Location NML-9 Installation



Appendix Figure B-10. Location NML-10 Installation



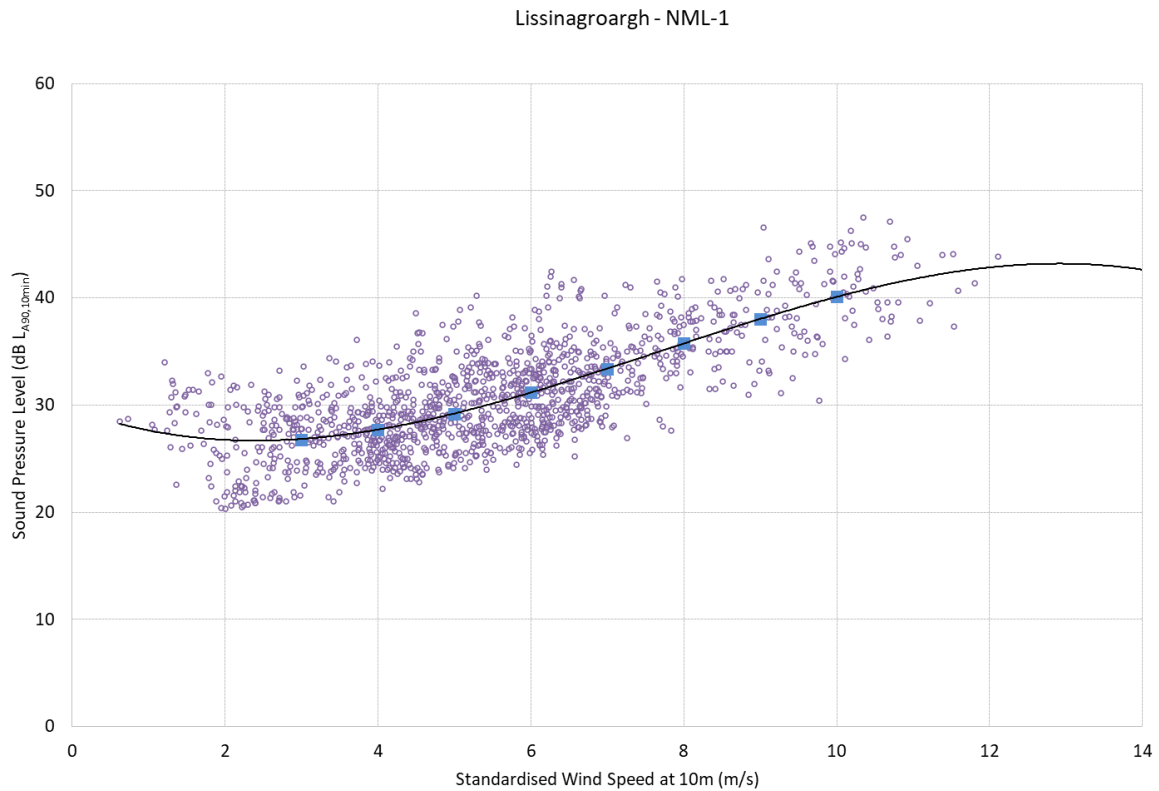
Appendix Figure B-11. Location NML-11 Installation



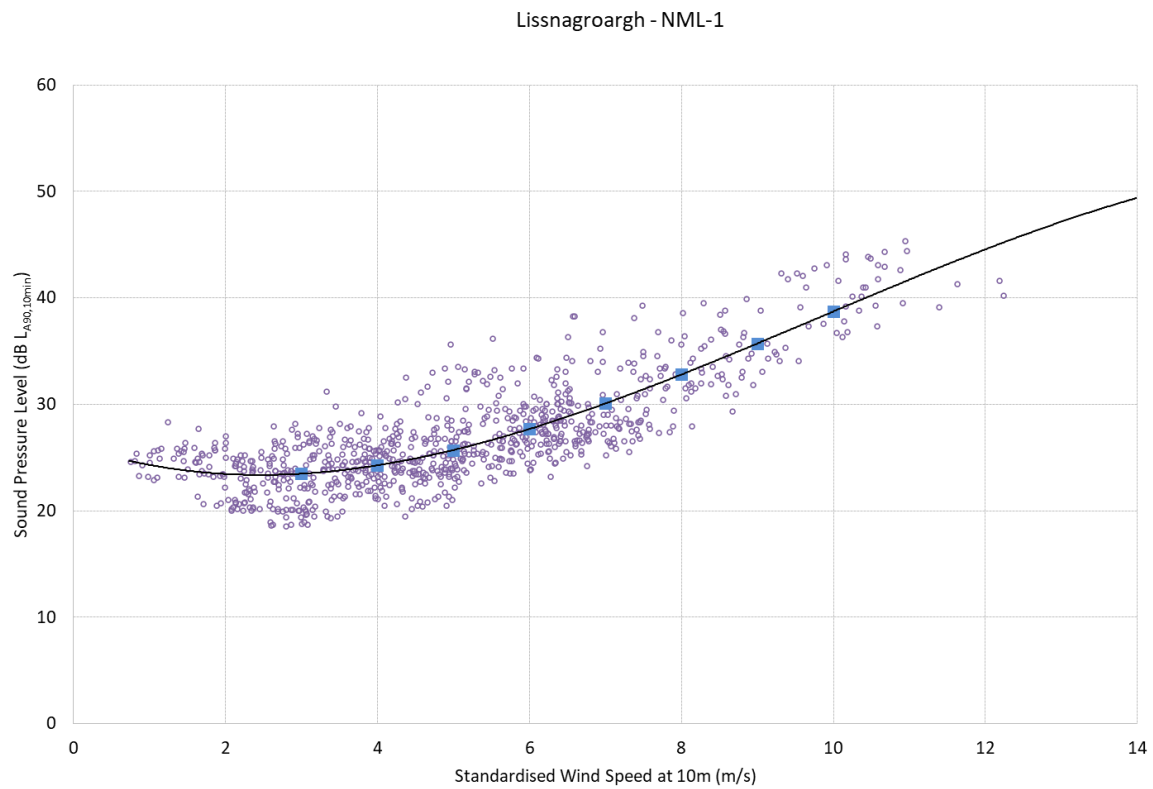
APPENDIX C. REGRESSION ANALYSIS ON DATA SETS

The following graphs present the data sets for each location. In each case, the daytime data is presented first and the night-time data below.

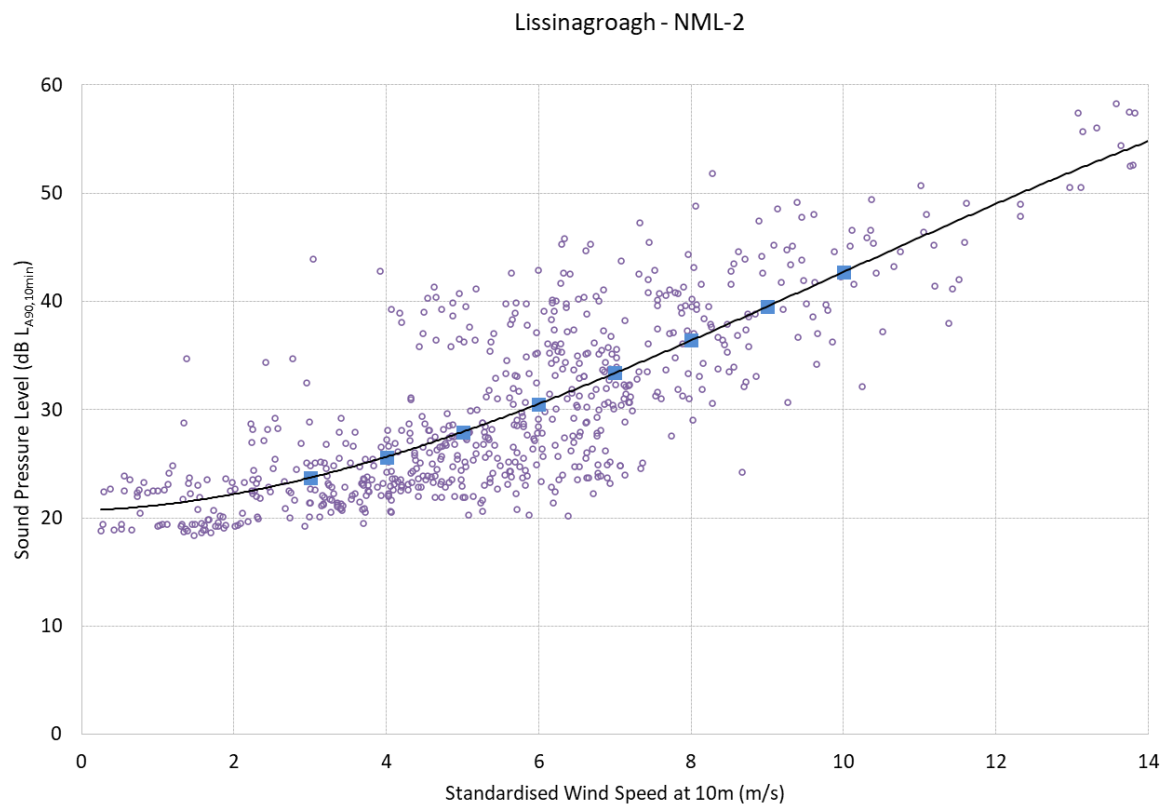
Appendix Figure C-1. Location NML-1 Daytime noise levels



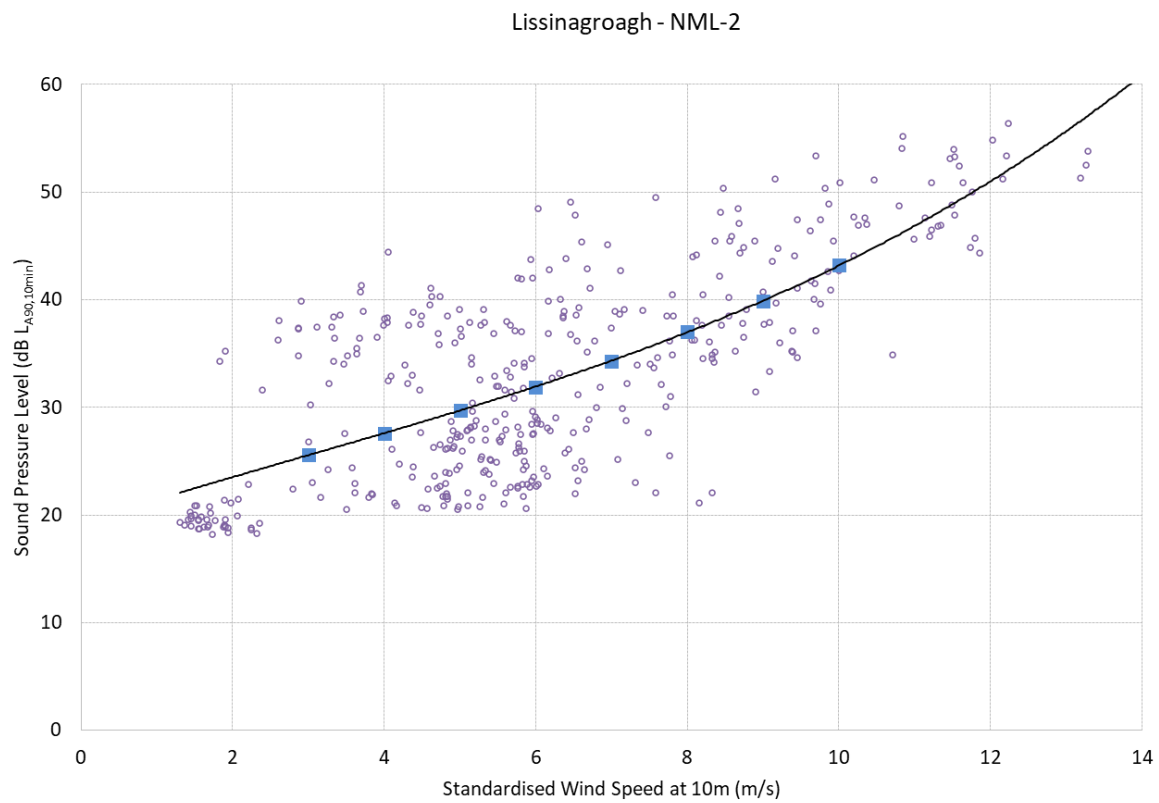
Appendix Figure C-2. Location NML-1 Night-time noise levels



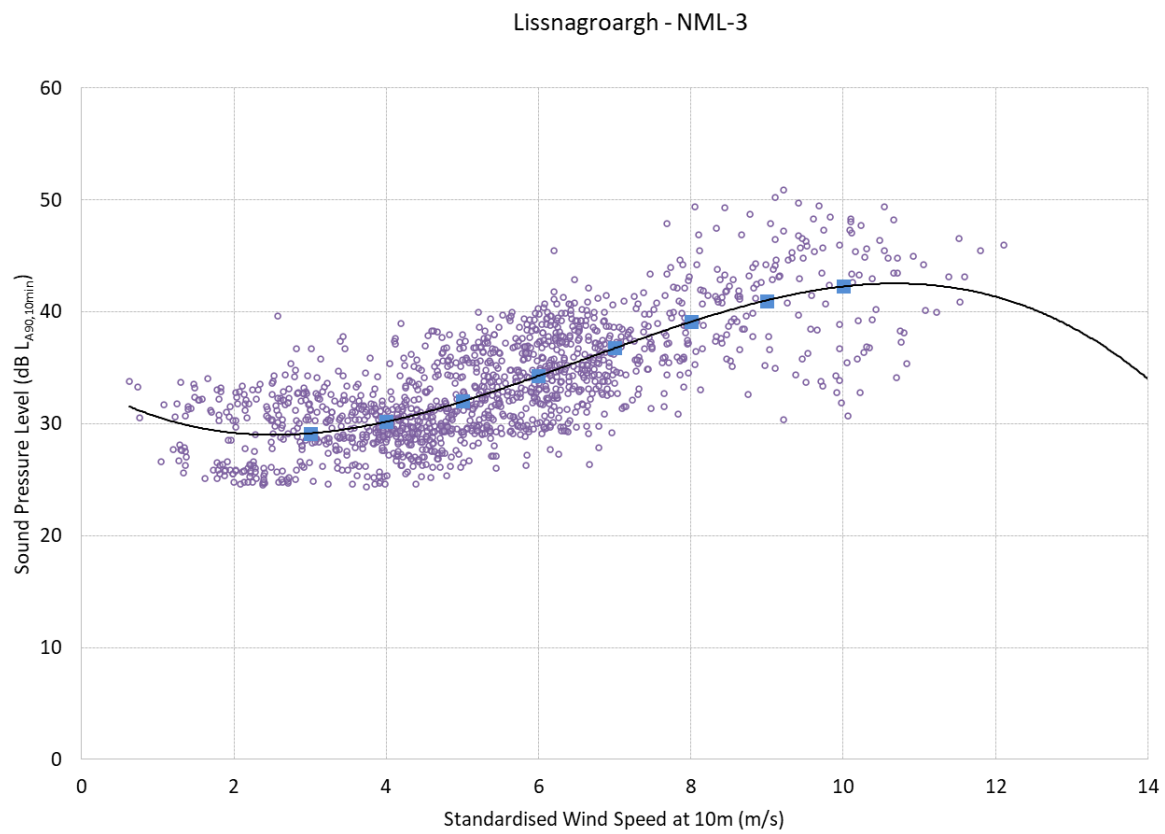
Appendix Figure C-3. Location NML-2 Daytime noise levels



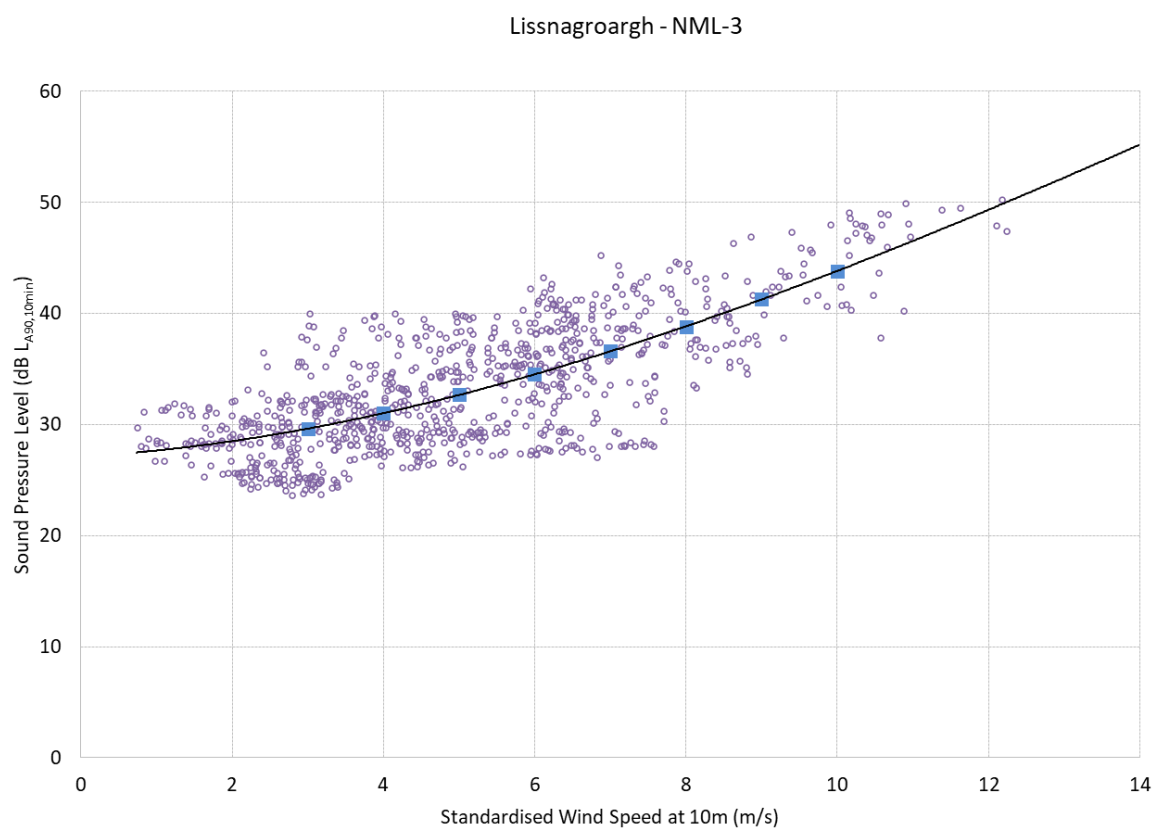
Appendix Figure C-4. Location NML-2 Night-time noise levels



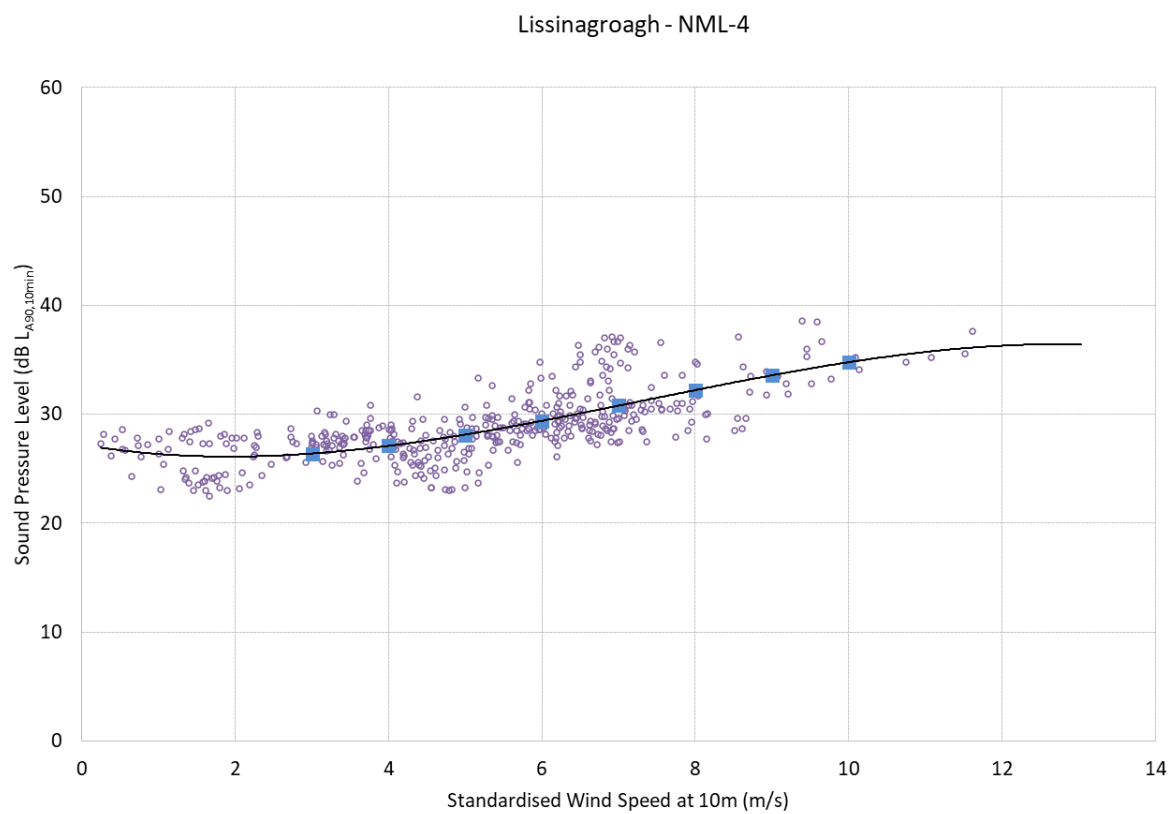
Appendix Figure C-5. Location NML-3 Daytime noise levels



Appendix Figure C-6. Location NML-3 Night-time noise levels

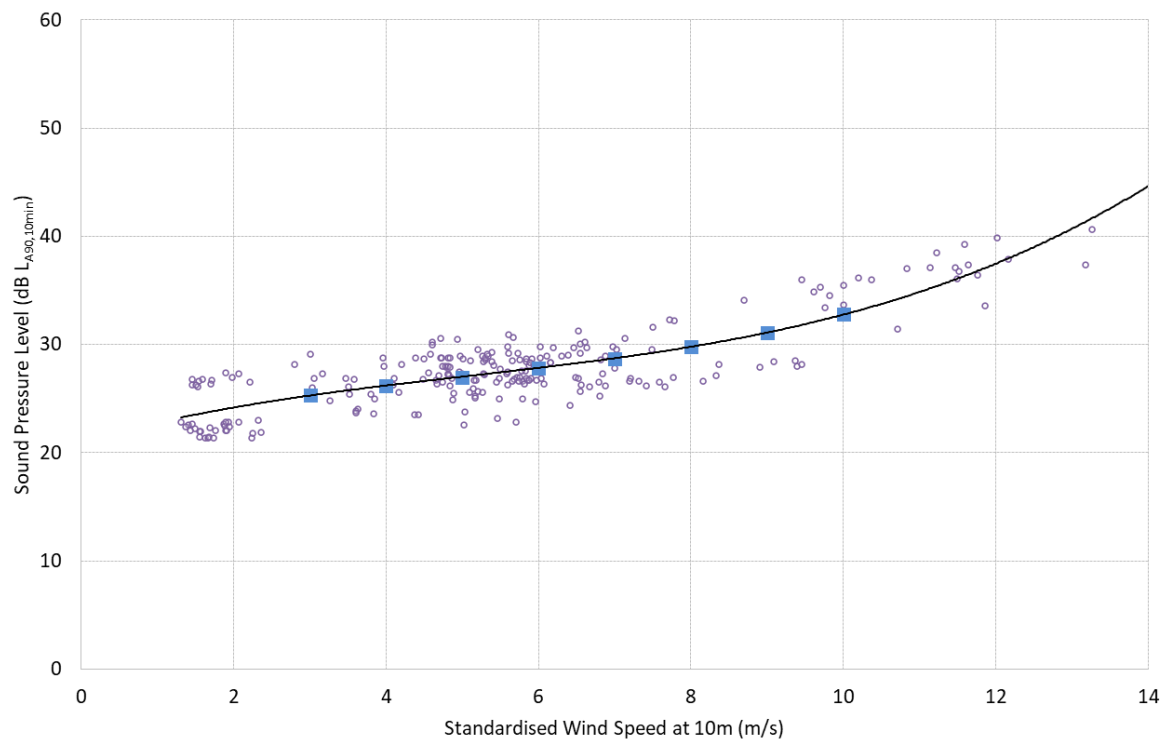


Appendix Figure C-7. Location NML-4 Daytime noise levels



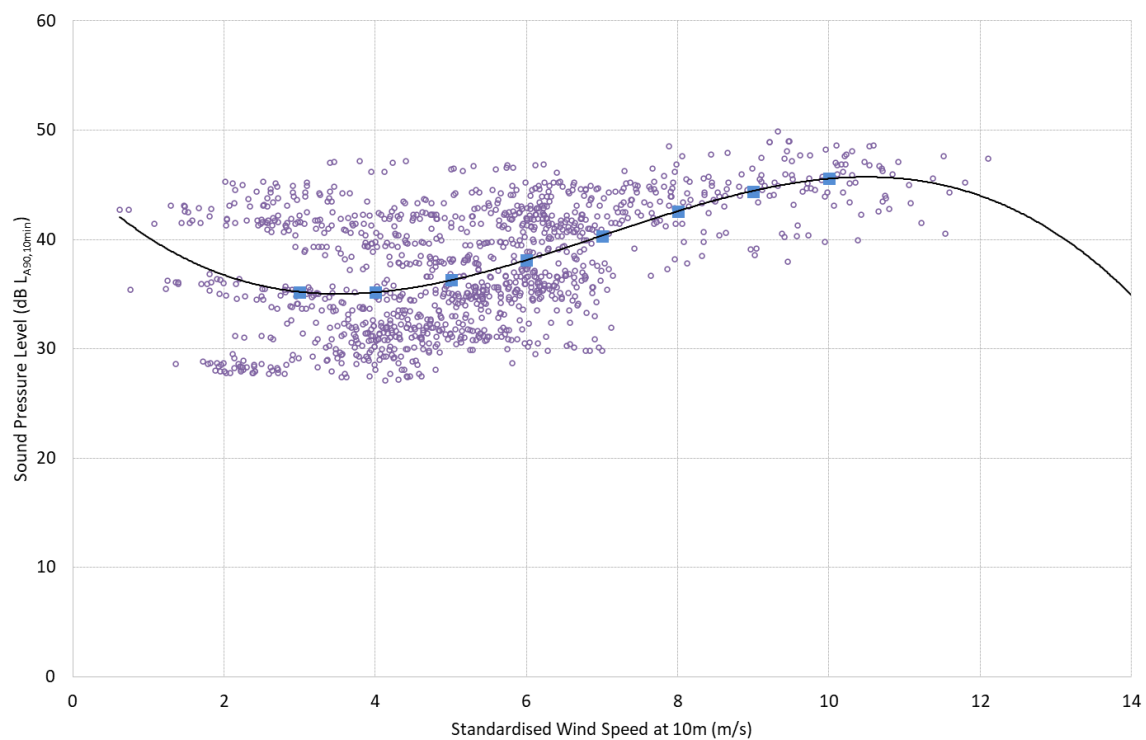
Appendix Figure C-8. Location NML-4 Night-time noise levels

Lissinagroagh - NML-4



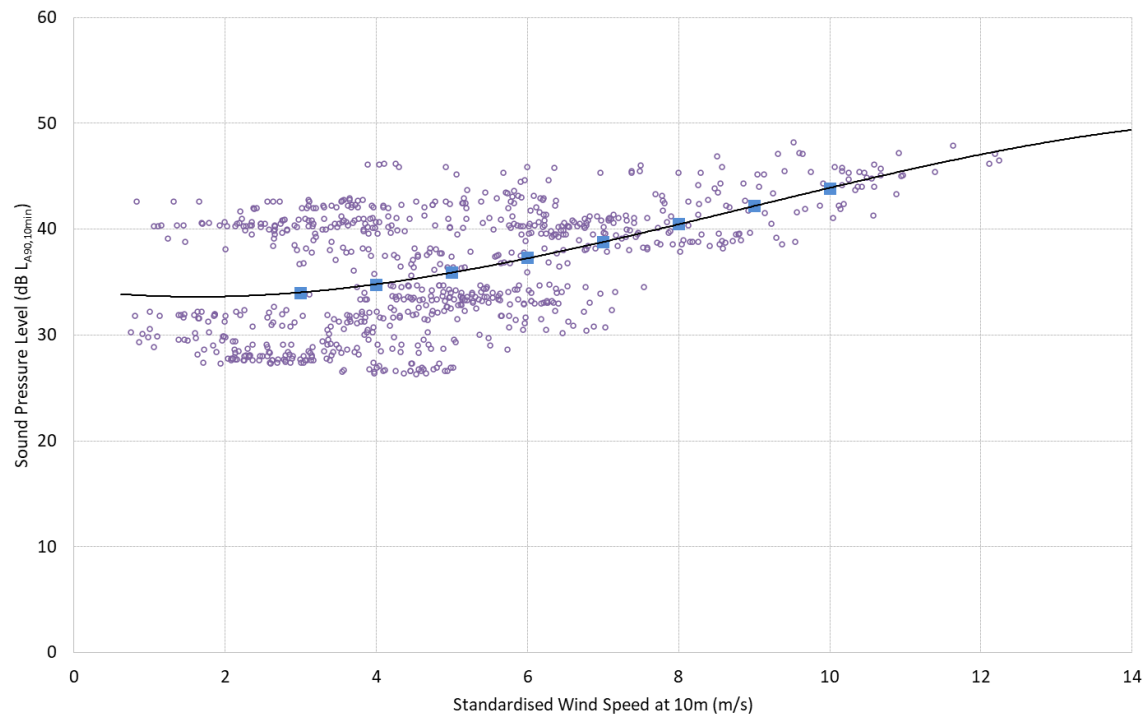
Appendix Figure C-9. Location NML-5 Daytime noise levels

Lissinagroagh - NML-5

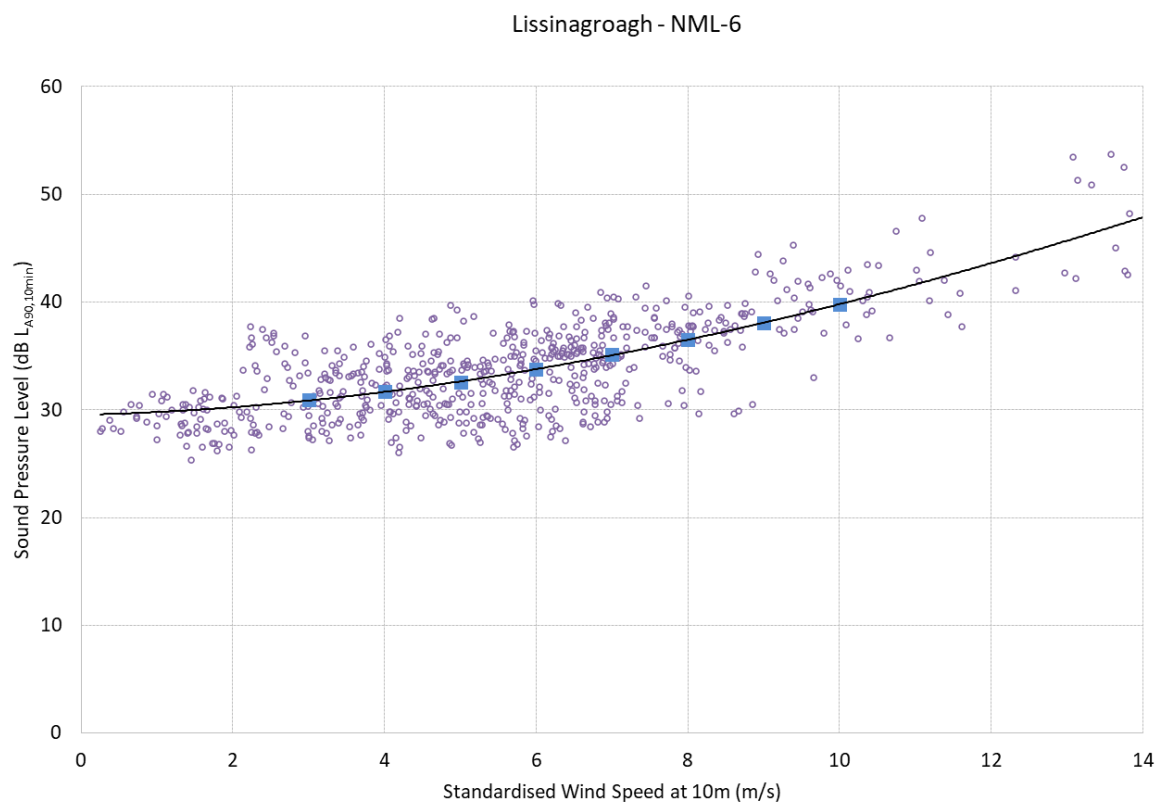


Appendix Figure C-10. Location NML-5 Night-time noise levels

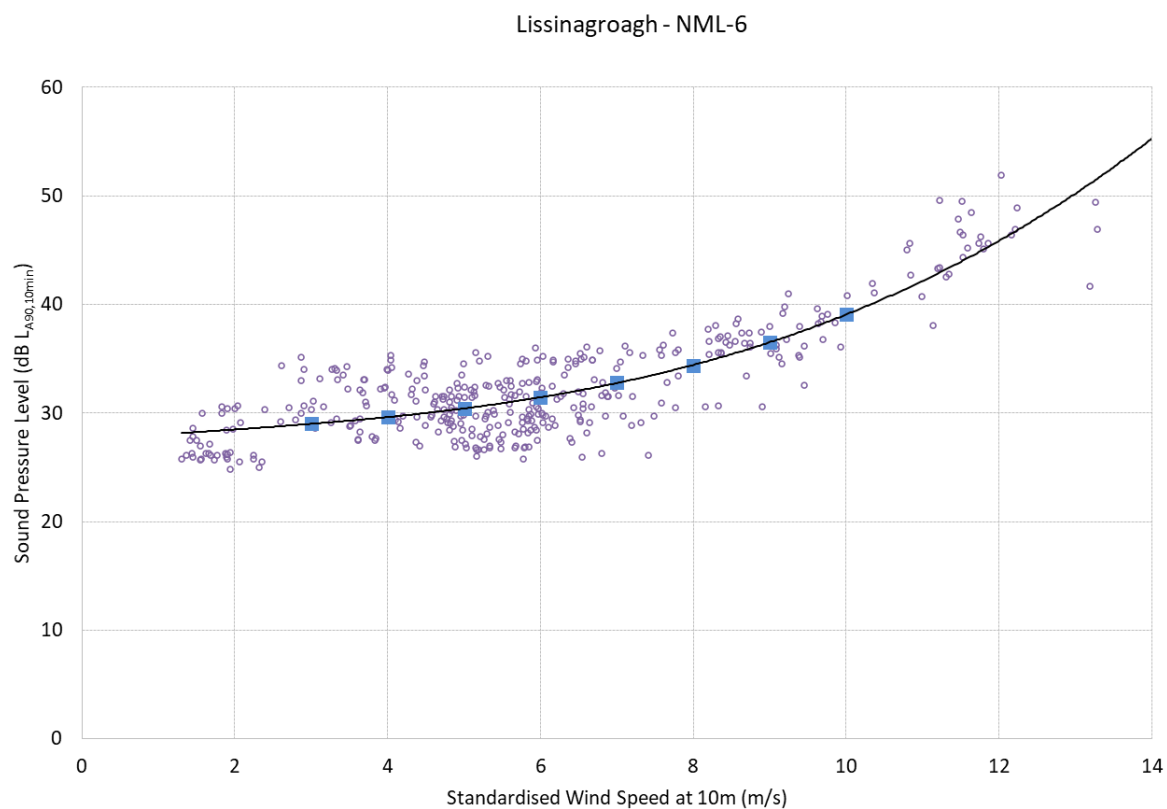
Lissinagroagh - NML-5



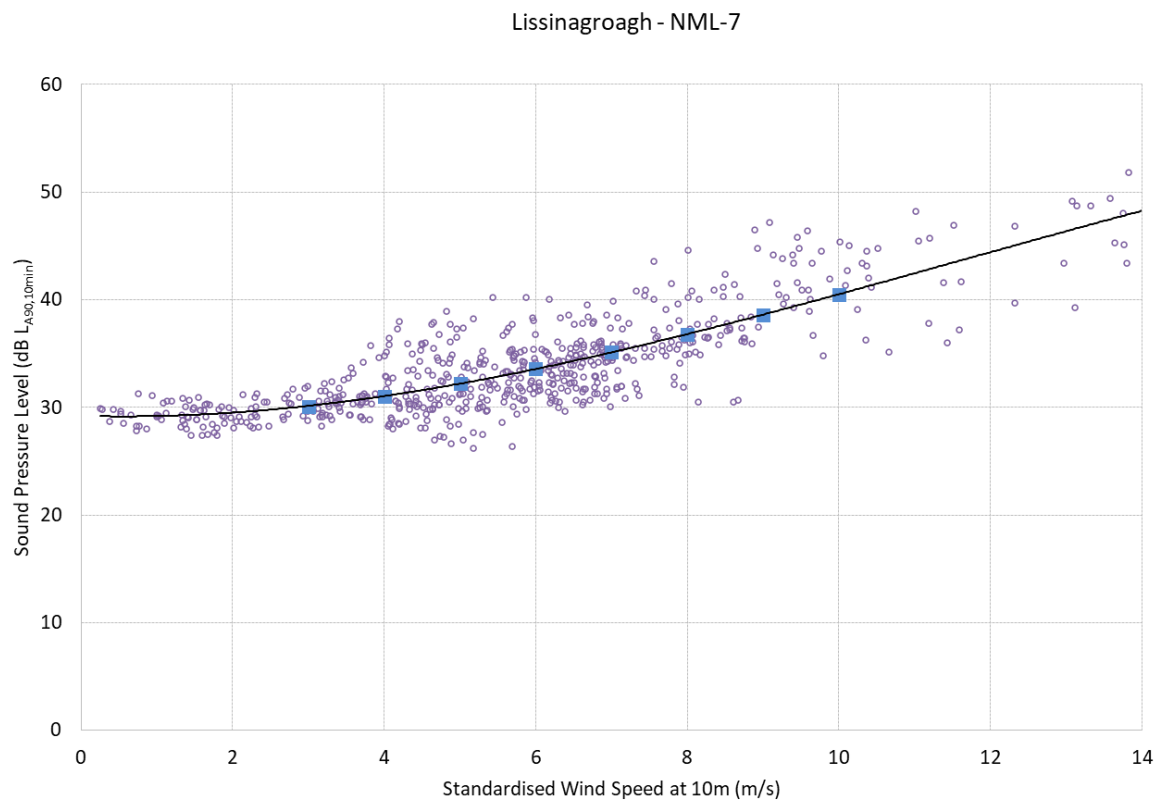
Appendix Figure C-11. Location NML-6 Daytime noise levels



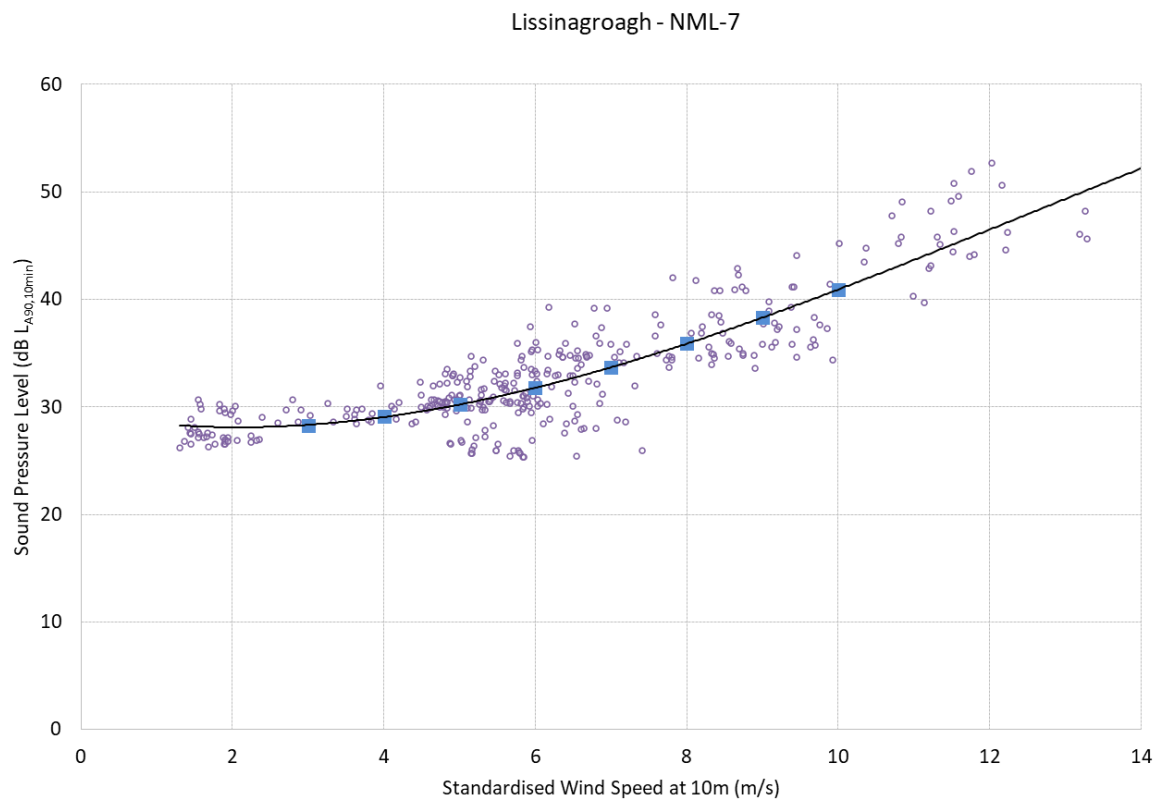
Appendix Figure C-12. Location NML-6 Night-time noise levels



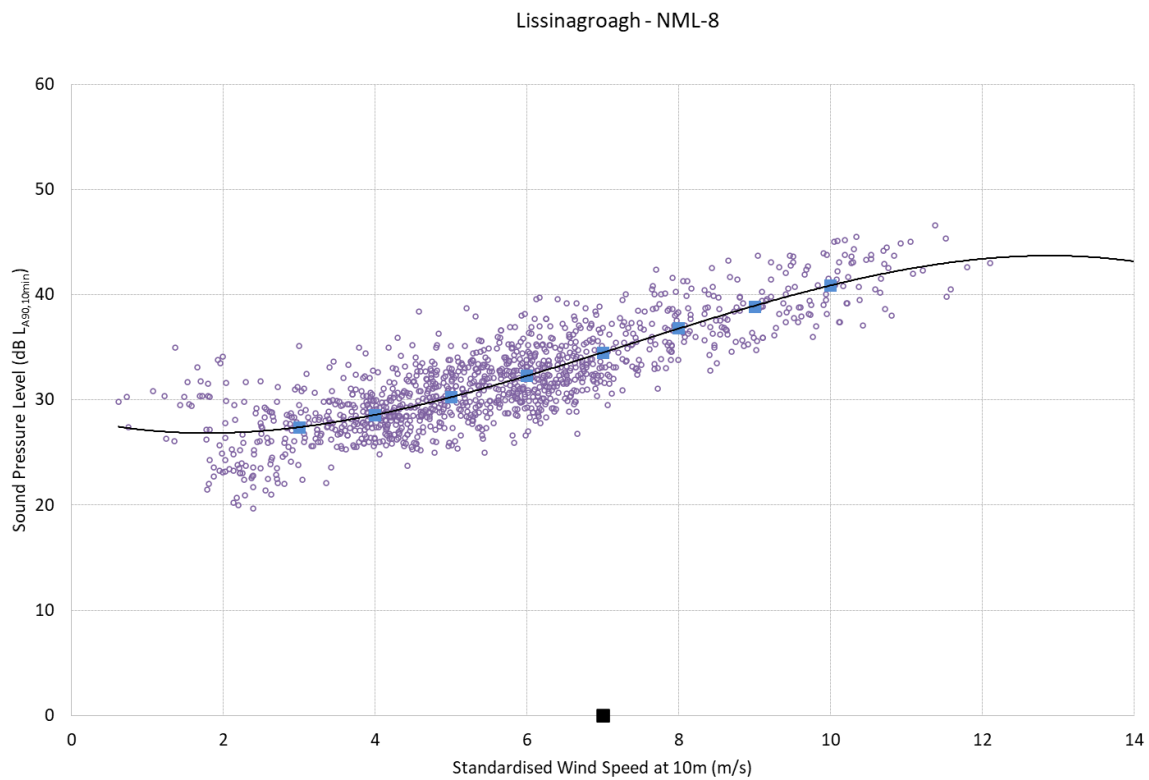
Appendix Figure C-13. Location NML-7 Daytime noise levels



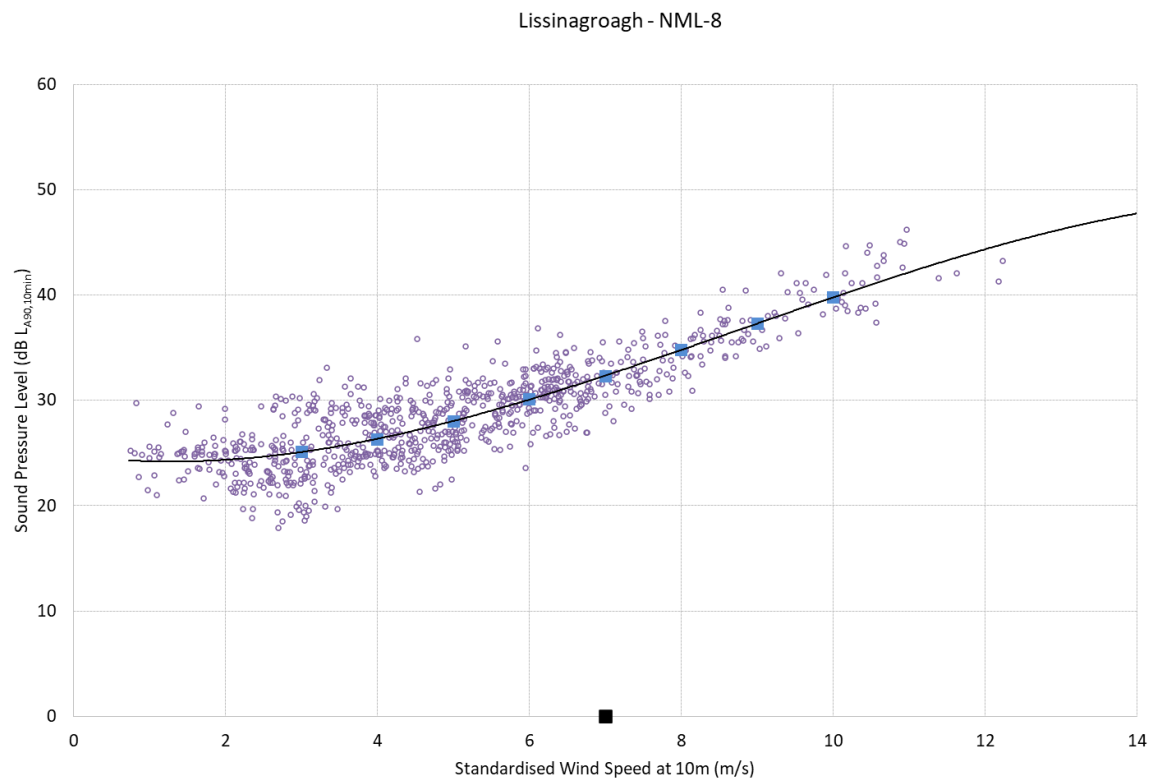
Appendix Figure C-14. Location NML-7 Night-time noise levels



Appendix Figure C-15. Location NML-8 Daytime noise levels

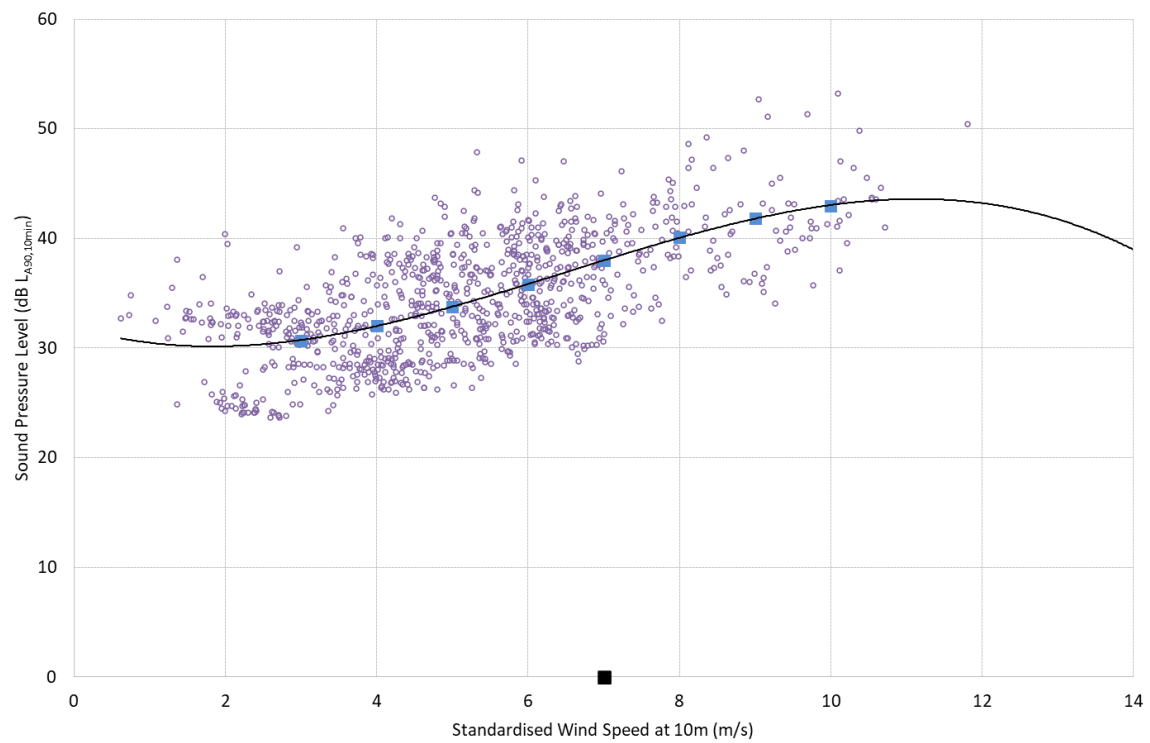


Appendix Figure C-16. Location NML-8 Night-time noise levels



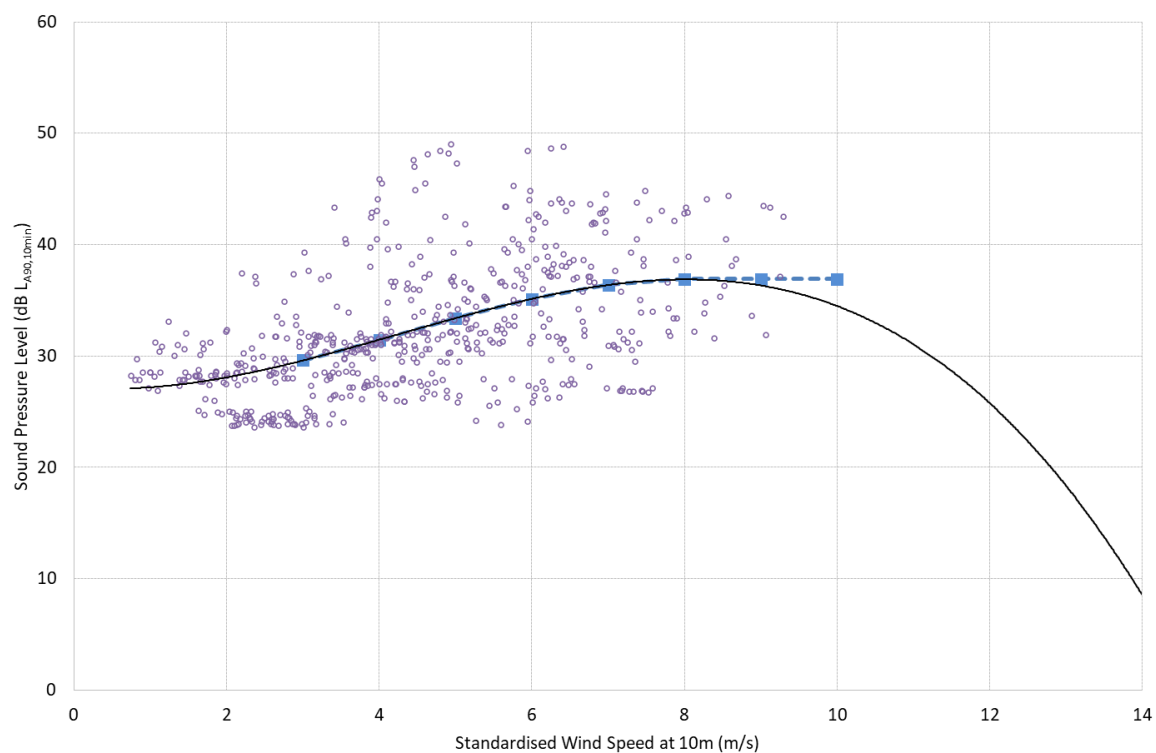
Appendix Figure C-17. Location NML-9 Daytime noise levels

Lissinagroagh - NML-9

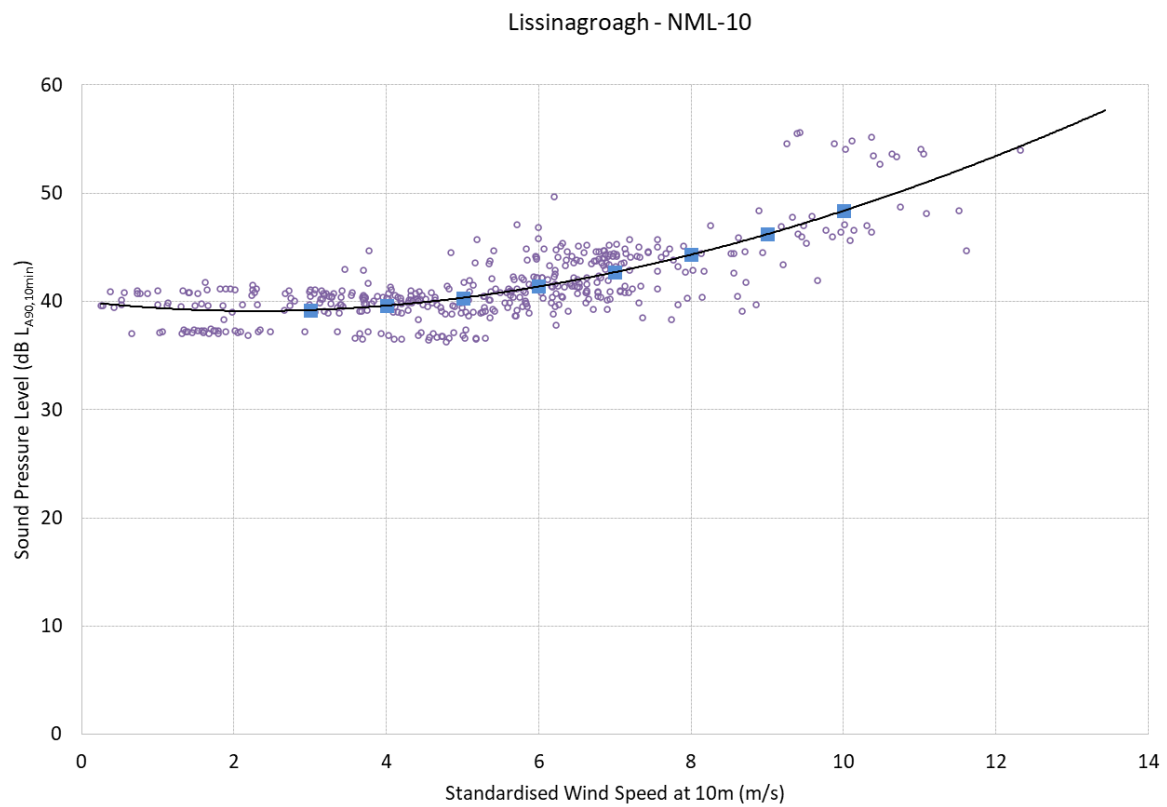


Appendix Figure C-18. Location NML-9 Night-time noise levels

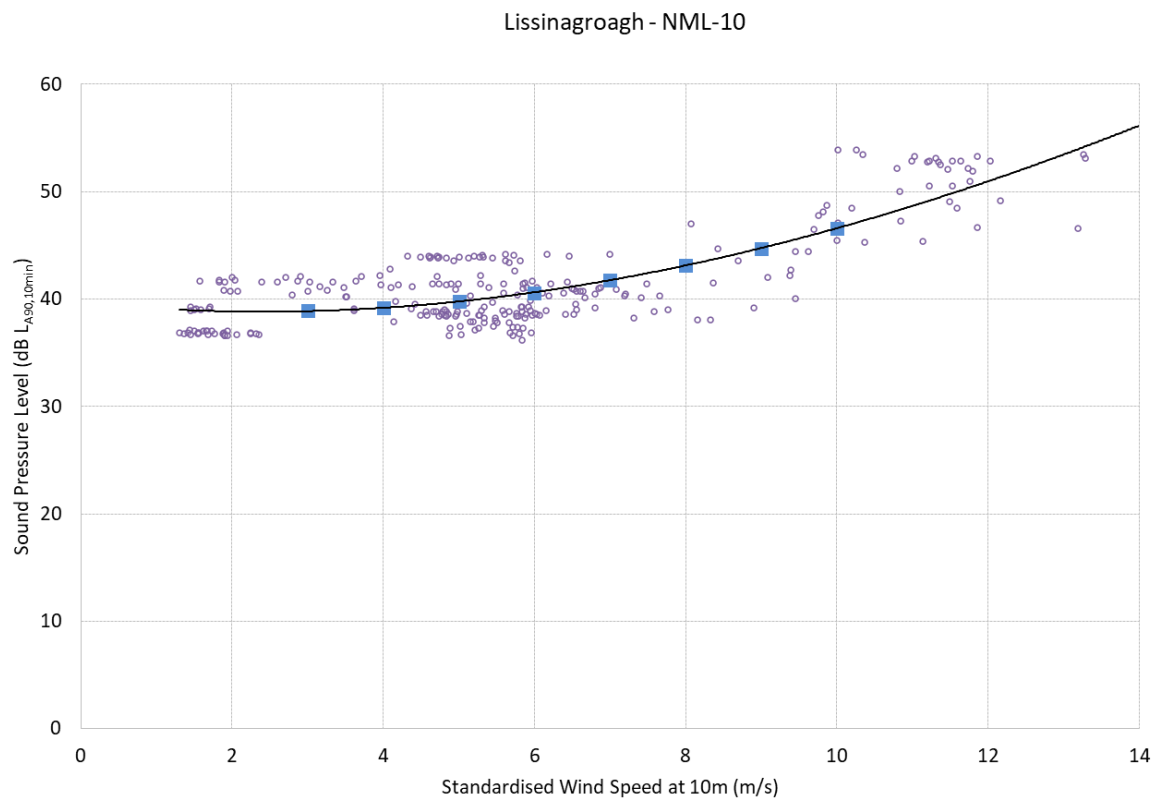
Lissinagroagh - NML-9



Appendix Figure C-19. Location NML-10 Daytime noise levels

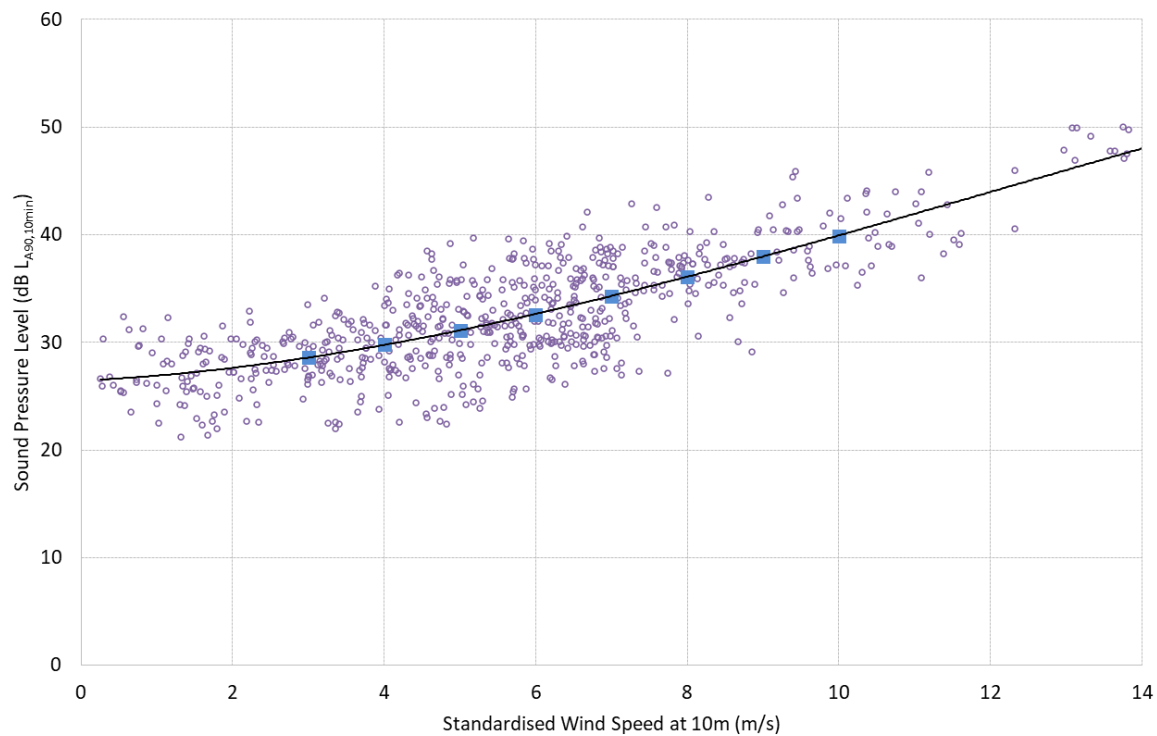


Appendix Figure C-20. Location NML-10 Night-time noise levels

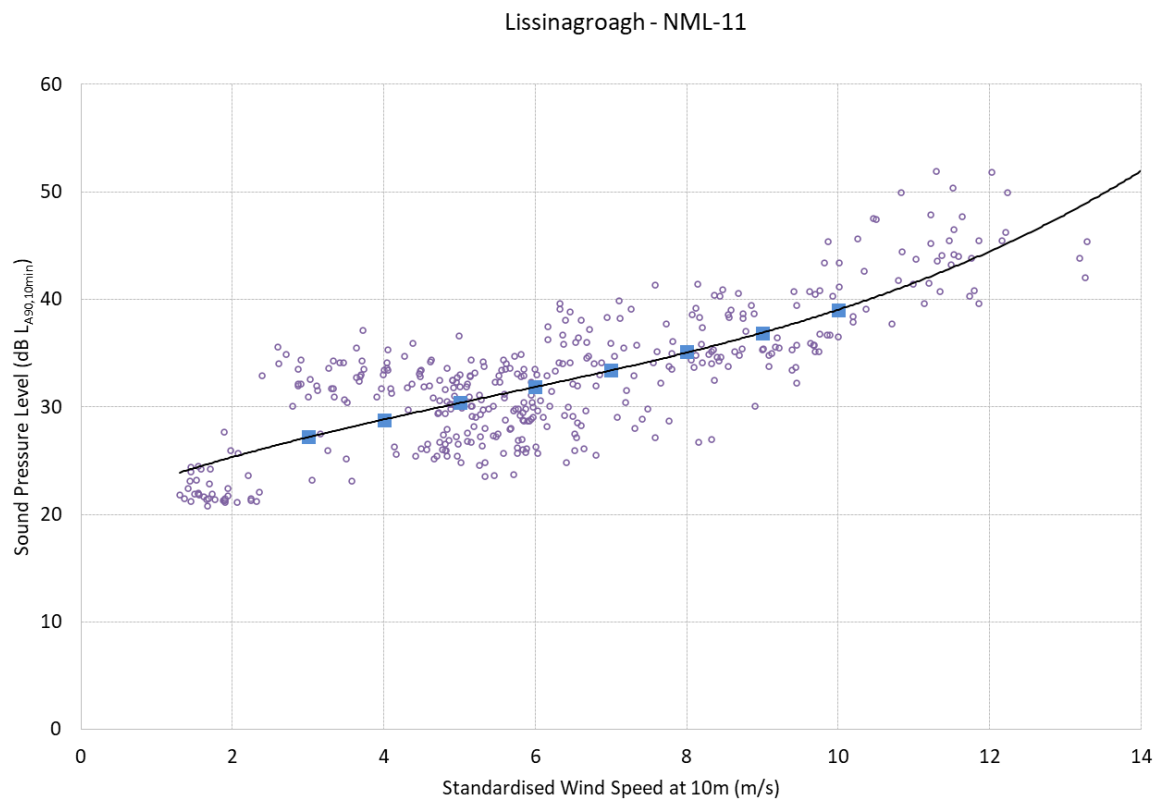


Appendix Figure C-21. Location NML-11 Daytime noise levels

Lissinagroagh - NML-11



Appendix Figure C-22. Location NML-11 Night-time noise levels



APPENDIX D. CALIBRATION CERTIFICATES

Location NML-1 and NML-4



CERTIFICATE OF CALIBRATION



Date of Issue: 12 May 2020

Certificate Number: UCRT20/1415

Issued by:

ANV Measurement Systems

Beaufort Court

17 Roebuck Way

Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk

Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Page 1 of 2 Pages
Approved Signatory
K. Mistry

Customer
 AWN Consulting
 The Tecpro Building
 IDA Business and Technology Park
 Clonsaugh
 Dublin 17

Order No. RM/20/Cal019
Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator
Identification

Manufacturer	Instrument	Type	Serial No. / Version
Rion	Sound Level Meter	NL-52	00186671
Rion	Firmware		2.0
Rion	Pre Amplifier	NH-25	76821
Rion	Microphone	UC-59	16877
Brüel & Kjær	Calibrator	4231	2205805
	Calibrator adaptor type if applicable		UC 0210

Performance Class 1
Test Procedure TP 2.SLM 61672-3 TPS-49
Procedures from IEC 61672-3:2006 were used to perform the periodic tests.
Type Approved to IEC 61672-1:2002 YES **Approval Number** 21.21 / 13.02
If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003
Date Received 30 April 2020 **ANV Job No.** UKAS20/04240
Date Calibrated 12 May 2020

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	20 April 2018	UCRT18/1437	0653

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Location NML-2 and NML-3



CERTIFICATE OF CALIBRATION



0653

Date of Issue: 17 July 2020

Certificate Number: UCRT20/1661

Issued by:

ANV Measurement Systems

Beaufort Court

17 Roebuck Way

Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk

Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Page 1 of 2 Pages

Approved Signatory

K. Mistry

Customer

AWN Consulting

The Tecpro Building

IDA Business and Technology Park

Clonshaugh

Dublin 17

Order No.

2055

Description

Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer	Instrument	Type	Serial No. / Version
Rion	Sound Level Meter	NL-52	00976162
Rion	Firmware		2.0
Rion	Pre Amplifier	NH-25	76279
Rion	Microphone	UC-59	12055
Rion	Calibrator	NC-74	34536109
	Calibrator adaptor type if applicable		NC-74-002

Performance Class

1

Test Procedure

TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002

YES

Approval Number

21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003

Date Received

16 July 2020

ANV Job No.

UKAS20/07375

Date Calibrated

17 July 2020

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate

Dated

23 August 2019

Certificate No.

UCRT19/1930

Laboratory

0653

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Location NML-5 Certificate 1



CERTIFICATE OF CALIBRATION



0653

Date of Issue: 05 May 2020

Certificate Number: UCRT20/1394

Issued by:

ANV Measurement Systems

Beaufort Court

17 Roebuck Way

Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

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Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Page 1 of 2 Pages
Approved Signatory
K. Mistry

Customer AWN Consulting
 The Tecpro Building
 IDA Business and Technology Park
 Clonshaugh
 Dublin 17

Order No. RM/20/Cal019

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification	Manufacturer	Instrument	Type	Serial No. / Version
	Rion	Sound Level Meter	NL-52	00164426
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	54559
	Rion	Microphone	UC-59	09207
	Brüel & Kjær	Calibrator	4231	2205805
		Calibrator adaptor type if applicable		UC 0210

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 30 April 2020

ANV Job No. UKAS20/04240

Date Calibrated 05 May 2020

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	09 April 2018	TCRT18/1308	ANV Measurement Systems

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Location NML-5 Certificate 2



CERTIFICATE OF CALIBRATION



0653

Date of Issue: 07 May 2020

Certificate Number: UCRT20/1405

Issued by:

ANV Measurement Systems

Beaufort Court

17 Roebuck Way

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Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

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Approved Signatory
K. Mistry

Customer
AWN Consulting
The Tecpro Building
IDA Business and Technology Park
Clonsaugh
Dublin 17

Order No.	RM/20/Cal019																												
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator																												
Identification	<table border="0"> <tr> <th>Manufacturer</th> <th>Instrument</th> <th>Type</th> <th>Serial No. / Version</th> </tr> <tr> <td>Rion</td> <td>Sound Level Meter</td> <td>NL-52</td> <td>00186668</td> </tr> <tr> <td>Rion</td> <td>Firmware</td> <td></td> <td>2.0</td> </tr> <tr> <td>Rion</td> <td>Pre Amplifier</td> <td>NH-25</td> <td>76701</td> </tr> <tr> <td>Rion</td> <td>Microphone</td> <td>UC-59</td> <td>12813</td> </tr> <tr> <td>Brüel & Kjær</td> <td>Calibrator</td> <td>4231</td> <td>2205805</td> </tr> <tr> <td></td> <td>Calibrator adaptor type if applicable</td> <td></td> <td>UC 0210</td> </tr> </table>	Manufacturer	Instrument	Type	Serial No. / Version	Rion	Sound Level Meter	NL-52	00186668	Rion	Firmware		2.0	Rion	Pre Amplifier	NH-25	76701	Rion	Microphone	UC-59	12813	Brüel & Kjær	Calibrator	4231	2205805		Calibrator adaptor type if applicable		UC 0210
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Performance Class	1																												
Test Procedure	TP 2.SLM 61672-3 TPS-49																												
	<i>Procedures from IEC 61672-3:2006 were used to perform the periodic tests.</i>																												
Type Approved to IEC 61672-1:2002	YES Approval Number 21.21 / 13.02																												
	<i>If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003</i>																												
Date Received	30 April 2020 ANV Job No. UKAS20/04240																												
Date Calibrated	07 May 2020																												

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	20 April 2018	UCRT18/1436	0653

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Location NML-6 and NML-9



CERTIFICATE OF CALIBRATION



0653

Date of Issue: 28 October 2020

Certificate Number: UCRT20/2049

Calibrated at & Certificate issued by:

ANV Measurement Systems

Beaufort Court

17 Roebuck Way

Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk

Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Page 1 of 2 Pages
Approved Signatory
K. Mistry

Customer AWN Consulting Limited
The Tecpro Building
IDA Business and Technology Park
Clonshaugh
Dublin 17
Ireland

Order No. PO-2083

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification	Manufacturer	Instrument	Type	Serial No. / Version
	Rion	Sound Level Meter	NL-52	00586940
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	87059
	Rion	Microphone	UC-59	17049
	Brüel & Kjær	Calibrator	4231	3010369
		Calibrator adaptor type if applicable		UC 0210

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 19 October 2020 ANV Job No. UKAS20/10584

Date Calibrated 28 October 2020

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	15 August 2018	UCRT18/1831	0653

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Location NML-7



CERTIFICATE OF CALIBRATION



Date of Issue: 07 May 2020

Certificate Number: UCRT20/1405

Issued by:

ANV Measurement Systems

Beaufort Court

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Page 1 of 2 Pages

Approved Signatory

K. Mistry

Customer

AWN Consulting

The Tecpro Building

IDA Business and Technology Park

Clonsaugh

Dublin 17

Order No.

RM/20/Cal019

Description

Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer	Instrument	Type	Serial No. / Version
Rion	Sound Level Meter	NL-52	00186668
Rion	Firmware		2.0
Rion	Pre Amplifier	NH-25	76701
Rion	Microphone	UC-59	12813
Brüel & Kjær	Calibrator	4231	2205805
	Calibrator adaptor type if applicable		UC 0210

Performance Class

1

Test Procedure

TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002

YES

Approval Number

21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003

Date Received

30 April 2020

ANV Job No.

UKAS20/04240

Date Calibrated

07 May 2020

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate

Dated

20 April 2018

Certificate No.

UCRT18/1436

Laboratory

0653

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Location NML-8 and NML-10



CERTIFICATE OF CALIBRATION



0653

Date of Issue: 15 September 2020

Certificate Number: UCRT20/1868

Calibrated at & Certificate issued by:

ANV Measurement Systems

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Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Page 1 of 2 Pages
Approved Signatory
K. Mistry

Customer AWN Consulting Limited
The Tecpro Building
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Clonsaugh
Dublin 17
Ireland

Order No. 2074

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification	Manufacturer	Instrument	Type	Serial No. / Version
	Rion	Sound Level Meter	NL-52	00564809
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	64934
	Rion	Microphone	UC-59	09447
	Rion	Calibrator	NC-74	34536109
		Calibrator adaptor type if applicable		NC-74-002

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 14 September 2020

ANV Job No. UKAS20/09501

Date Calibrated 15 September 2020

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	22 August 2018	UCRT18/1866	0653

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Location NML-11



CERTIFICATE OF CALIBRATION



0653

Date of Issue: 22 January 2020

Certificate Number: UCRT20/1095

Issued by:

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Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Page 1 of 2 Pages
Approved Signatory
K. Mistry

Customer AWN Consulting
 The Tecpro Building
 IDA Business and Technology Park
 Clonshaugh
 Dublin 17

Order No. AWCN150120QTE
Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator
Identification

Manufacturer	Instrument	Type	Serial No. / Version
Rion	Sound Level Meter	NL-52	00998413
Rion	Firmware		2.0
Rion	Pre Amplifier	NH-25	98627
Rion	Microphone	UC-59	15920
Rion	Calibrator	NC-74	34536109
	Calibrator adaptor type if applicable		NC-74-002

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 17 January 2020

ANV Job No. UKAS20/01036

Date Calibrated 22 January 2020

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	Initial Calibration		

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APPENDIX C

Geotechnical Engineer Technical Note (Review of
Peat Stability and Karst Risk)



TECHNICAL NOTE

To: Kieran O Malley, FuturEnergy Ireland

From: Conor O'Donnell

Re: Lissinagroagh Wind Farm – Review of Peat Stability & Karst Risk

Date: 8/9/2026

Ref: 26-166-TN001 (Rev.2)

1.0 INTRODUCTION

I have been requested by FuturEnergy Ireland to review the EIAR and associated reports and planning documents for the Lissinagroagh Windfarm to carry out an independent assessment of the potential impact of the proposed development on peat stability on the site. I was also requested to review the karst risk on the project.

2.0 STATEMENT OF EXPERTISE

My name is Conor O'Donnell. I am a Senior Geotechnical Consultant and Managing Director of AGL Consulting, based in Dublin, Ireland. I have an honours undergraduate degree in Civil, Structural and Environmental Engineering from Trinity College Dublin, and a master's degree in geotechnical engineering and structural mechanics from Cornell University in Ithaca, New York. I am a Chartered Engineer with Engineers Ireland, a Fellow of the Geological Society of London, and a Fellow Consulting Engineer with the Association of Consulting Engineers of Ireland.

I have extensive experience with civil and earthworks design for wind farms and infrastructure works in Ireland and the UK and have developed a particular area of expertise in assessing and managing the risk of peat instability for wind farms on upland blanket bogs at planning, detailed design and construction stage. I was the lead project geotechnical engineer responsible for managing the risk of peat stability for the completion of the civil works on the Derrybrien Wind Farm site after the peat slide in October 2003, which included the design, evaluation and testing of over 17.5km of floating roads across the site as well as geotechnical investigations and stability analyses to design repository sites to store peat excavated from 70 turbines and crane hardstanding areas and the substation site.

Since then I have carried out peat stability risk assessments and provided expert advice on geotechnical risk mitigation and management for several wind farms on upland blanket bogs including the Garvagh Glebe and Tullynahaw Wind Farms in Co. Leitrim and Co. Roscommon, the Grousemount Wind Farm in Co. Kerry, and the Crockagarran, Carrickatane and Crockdun Wind Farms in Co. Tyrone.

I have also provided expert advice and forensic investigation services to the Health and Safety Authority and insurance companies in relation to peat slides that occurred on wind farm sites in Ireland.

In 2020 I prepared the chapter on soils, geology and land for the 2020 remedial Environmental Impact Assessment Report (rEIAR) for the Derrybrien Wind Farm, including the appendices on peat stability risk assessment and on the management of peat stability during construction. Since then, I have also prepared the chapters on soils, geology and land for the 2025 application to decommission the wind farm, which included an EIAR and PSRA for the elements of the windfarm to be decommissioned and taken off site, as well as an rEIAR and PSRA for the elements to be left in place after decommissioning.

I was the geotechnical advisor to An Bord Pleanála on peat stability and ground movement for the Oral Hearing into the 2009 application for the Corrib Onshore Gas Pipeline. I was also the expert geotechnical consultant to Sligo County Council on spoil management for excess peat and mineral soil for the EIS and 2014 Oral Hearing for the N4 Collooney to Castlebaldwin Road Improvement Scheme, which included design proposals for storage of large volumes of excavated peat in borrow pits and bunded peat repository sites.

In terms of assessing and mitigating karst risk, I was the Cat III independent checker on the earthworks design for the M8 Cashel to Mitchelstown motorway, and for the northern section of the M18 Gort to Tuam motorway, both of which involved assessing the impact of extensive active karstification on the proposed schemes, as well as developing geotechnical designs to mitigate the impact of karst features on the road pavement and bridge foundations for the projects. I was also a specialist geotechnical adviser to Irish Distillers on the design of the foundations for their new administration building at the Middleton Distillery in Cork, which involved supplemental investigations and deep bored micropiles to mitigate the risk of the highly weathered karstified Limestone that was encountered under the footprint of the building with cavities and an active swallow hole in a sensitive karst aquifer used for water supply in the distillery.

3.0 DOCUMENTS REVIEWED

I have been provided with access to a copy of the Environmental Impact Assessment report and associated planning application documents and drawings, which include the following relevant documents that give details of the earthworks and drainage design for the wind farm in addition to the spoil management proposals, the ground and groundwater conditions on the site, and the peat stability risk assessment for the project:

- Planning Documents:
 - Drawings 2010 to 2019 – Site Layout Plans.
 - Drawing 2033 – Proposed Track Construction Details
 - Drawings 2050 to 2056 – Drainage Layout Plans.
 - Drawings 2090 to 2092 – Proposed Borrow Pits 1-3, Plan & Sections
- EIAR Chapter 2: Description of the Proposed Project
 - Appendix 2-5: Peat and Spoil Management Plan
 - Appendix 2-6A: Ground Investigation – Phase 1

- Appendix 2-6B: Ground Investigation – Phase 2
- Appendix 2-6C: Ground Investigation – Phase 3
- EIAR Chapter 7: Land, Soils & Geology
 - Appendix 7-1: Peat Stability Risk Assessment
 - Appendix 7-2: Karst Assessment

4.0 OPINION

Having reviewed the relevant information on the project details, ground and groundwater conditions, spoil management and peat stability I would make the following observations:

- In general, I would consider that the site of the proposed project would be classified as having a relatively low risk of peat instability which is restricted to localised areas at the centre and north end of the site where the main peat deposits are located. This is because:
 - Most of the project is located on the lower slopes of Dough Mountain where there is a discontinuous cover of shallow, vegetated, relatively dry peat that is well drained with an extensive network of existing streams originating in the steeper upper slopes.
 - The GSI subsoils map in Figure 7-7 of the EIAR indicates that majority of the project is located in areas where the subsoils are categorised as sandstone glacial till rather than peat. The sections in blanket bog are limited to two localised areas at the central and northern end of the project, i.e.:
 - Turbines T7 and T8 and a section of the access track between them at the centre of the site; and
 - The area around Turbines T2, T3 and Borrow Pit 1 on Saddle Hill at the north end of the site.
 - The ground investigation information in Appendix 2-6A to 2-6C of the EIAR also indicates that the depth of peat is generally shallow across the project area, typically <0.5-1.5m, with zones of deeper peat up to 2.5-3.5m limited to the north end of the site between Turbines T1 and T3 on Saddle Hill, and in localised areas along the access tracks and at crane hardstanding areas elsewhere on the site (e.g. Turbines T5 & T8). This is illustrated on the peat depth map in Appendix 1 of the Peat Stability Risk Assessment (PSRA) report in Appendix 7-1 of the EIAR.
 - All the trial pits in the shallow peat <1.5m were stable. Hand vanes carried out in the peat recorded high undrained shear strengths >15-20kPa, and water contents recorded in laboratory classification tests were low for peat at 250-500%. All of this confirms that the areas of shallow peat on the site are dry and well drained with a very low risk of peat instability related to the wind farm project.
 - The Geological Survey of Ireland (GSI) landslide susceptibility map shown on Figure 9 of the PSRA report in Appendix 7-1 of the EIAR shows that the

majority of the site is located in zones of Low or Moderately Low landslide susceptibility.

- Although there are sections of the project that are in areas of Moderately High landslide susceptibility, the methodology that is used in the GSI classification system is heavily weighted by topography. Therefore, they are in areas of steep terrain where the cover of peat is either locally absent on scree slopes, or limited to a shallow cover of dry vegetated peat where the risk of peat instability would be low and limited to localised shallow small-scale erosional peat slides can occur naturally during periods of heavy rainfall and typically have a low impact.
- Based on studies of peat failures on other wind farms on upland blanket bogs in Ireland, the risk of larger scale peat slides typically occurs where there is a cover of relatively deep peat >2m deep where there is a convex breaking slope (i.e. where the slope gets steeper downslope) at the boundary between zones of Low to Moderately Low or Moderately High landslide susceptibility directly upslope from a watercourse. Where sections of the Lissinagroagh Wind Farm project are located in areas of deeper peat at the boundary of the Moderately High and High susceptibility zones on the site, they are at the base of the steeper slopes where the concave profile is inherently more stable (i.e. the slope gradients reduce downslope from the windfarm).
- Section 3.5 and Figure 8 of the PSRA in Appendix 7-1 of the EIAR identifies 5 No. historic landslides in peat at the northern end of the site that are recorded on the GSI database. A further 2 No. historic landslides in scree are recorded on the steep southern slopes of Dough Mountain. The landslides in peat are described on the GSI database as *shallow landslides in blanket peat*. They all occurred on relatively steep slopes in areas of Moderately High susceptibility on undeveloped blanket bog remote to the forestry roads, conifer plantations and existing wind farm infrastructure in the area. They are likely to have occurred naturally as erosional peat slides during periods of heavy or sustained rainfall due to concentrated groundwater flow in more permeable mineral soils, scree or weathered rock below the peat. Aerial photographs of Dough Mountain show scars of numerous similar erosional features on the steep slopes on the north side of the mountain. These are part of the natural erosion process on the land and would have similar characteristics to the two landslides in the scree slopes on the south side of the mountain that are also recorded on the GSI database. All the peat slides on the GSI database around the project area are localised and contained within a short runout distance on the lower slopes so that the impact of the slides would be characterised as low.
- Although the peat slides recorded on the GSI database in this area indicate that there is potential for localised shallow peat slides to occur naturally under similar conditions within the project area, this risk can be adequately mitigated for the wind farm project with a suitably designed drainage system to intercept and divert clean surface runoff, and to collect groundwater flow along the access roads, turbines and crane hardstandings, with controlled dispersed runoff points, check dams and settlement ponds to prevent a buildup of groundwater in the granular rockfill, as proposed. A suitably designed drainage system would reduce the risk to very low for the proposed project.

- Based on the desk study and ground investigation information presented in the EIAR the risk of peat failures should be limited to those areas of locally deeper peat >1.5m between Turbines T1 and T3 at the northern end of the site, and locally along sections of the access roads and turbine hardstandings near Turbines T4, T5 & T8 in the centre of the site. In the shallow peat <1.5m the risk should be limited to shallow erosional peat slides under uncontrolled drainage conditions.
- Based on my review of the proposed geotechnical design of the civil engineering works for the windfarm in Chapter 2 of the EIAR (Project Description), including the Peat and Spoil Management Plan in Appendix 2-1 and the related drawings in the Planning Documents, I would consider that there are significant design and construction mitigation measures incorporated into the proposed works that would significantly reduce the risk of a peat failure so that the risk should be low, i.e.:
 - It is not proposed to construct any floating roads on the peat. All the new site access tracks will be comprised of a suitable thickness of compacted rockfill constructed directly on competent glacial till or rock below the peat. These will exert negligible load on the peat and will also improve overall site stability where they act as a barrage to support peat directly upslope from the roads.
 - Similarly, all the peat and soft clay will be excavated out from under the crane hardstandings, turbine foundations, site compounds and substation sites to support the crushed rock hardstanding areas and reinforced concrete foundations on the underlying competent glacial till and bedrock with negligible loading on the peat.
 - None of the excavated peat or mineral soil will be sidecast on the peat slopes. Most of the excavated peat and surplus mineral soil will be placed in the 3No. designated bunded borrow pit storage areas where it will be fully contained by the glacial till and rock slopes below ground level within deep cells inside the borrow pit. This is the most secure way of storing very soft excavated peat. A small volume of dry peat will be spread on the glacial till at the south end of the site for landscaping.
 - The peat and spoil management plan in Appendix 2-1 of the EIAR has taken account of the construction programme constraints that will need to be managed to sequence the requirements for generating rockfill from the borrow pits to construct the access roads and hardstanding areas, while creating capacity to store peat as it is excavated from the central and northern areas of the site where most of the peat is expected to be encountered. 3 No. borrow pits are proposed along the length of the project area and they will be developed in a phased sequence, as required. The borrow pits have also been designed with sufficient capacity to store the estimated volume of peat and surplus mineral soil that will be excavated from the site.
 - The drainage design includes comprehensive standard details for upslope interceptor drains and downslope collector drains along the access tracks and crane hardstanding areas, with regular outfalls, check dams and settlement ponds to effectively manage the collection and controlled discharge of surface runoff and to prevent an accumulation of groundwater in the granular rockfill

to prevent downslope peat instability from concentrated groundwater seepage and hydrostatic pressures during periods of heavy rainfall.

- I would consider that the proposed earthworks and drainage design for the wind farm in the EIAR and supporting documents incorporates standard details that can be developed into the detailed design to effectively mitigate the risk of peat instability during construction. It is proposed to carry out supplemental ground investigations on the site to develop the design where required, which is standard practice, and construction of the wind farm will be supervised by a suitably qualified geotechnical engineer to ensure that peat stability is effectively managed on site.
- Furthermore, the general design details that have been proposed in the EIAR are the primary mitigation measures that reduce the risk of peat instability to low or very low. The assessment is not reliant on the proposed supplemental investigations during the detailed design stage, or the monitoring and emergency response procedures that will be implemented during construction. These are standard operating procedures that represent standard practice for developing the detailed design of the project, and for managing the low to very low residual risk during construction, which is also a health and safety consideration.
- I have also reviewed the potential impact of karstification in the underlying limestone bedrock on the project. The Karst Assessment report in Appendix 7-2 gives a summary of the assessment that has been carried out and the mitigation measures that will be implemented at detailed design and constructions stage of the project. I note that:
 - A comprehensive review of possible karst features in the project area has been carried out by experienced personnel involving numerous site walkover surveys and a desk study review of aerial photographs and LiDAR surveys.
 - A total of 71 No. features or possible karst features were identified across the site, none of which had been identified on the GSI karst database. The layout of the features is shown on Figure 7-14 of the EIAR. They are largely comprised of dolines (shallow surface depressions) with some swallow holes.
 - The layout of the turbines, substation and met mast was designed with a min. 30m buffer from the dolines and 100m from the swallow holes, which would be the primary risk for the turbines, access roads and hardstanding areas. Only 4 No. features are located within a larger 250m buffer from the turbines. The alignment of the site access roads has also been designed to avoid almost all the mapped features.
 - A rotary corehole was carried out at Turbine T7 to assess the risk of karstification in the underlying Limestone bedrock. This turbine is closest to the swallow holes that were identified at the centre of the site. However, there was no evidence of karstification in the underlying bedrock with 100% recovery in good quality moderately to slightly weathered Limestone bedrock, and no records of cavities, voids or loss of drilling fluid in the corehole.
 - Based on the desk study, walkover surveys and ground investigation the proposed wind farm site has been classified as having a low to medium karst risk. It has also been concluded that the extensive network of streams on the

site indicate that the site hydrology/hydrogeology is characterised by overland flow of surface runoff rather than by a network of subterranean streams or diffuse flow through open fissures, caves and cavities in a karstified aquifer.

- Supplemental ground investigations and inspections will be carried out during the detailed design stage of the project to further characterise and mitigate the karst risk on the project. This will involve rotary coreholes at each of the turbines to characterise the strength and quality of the rock and to assess the potential for active karst features that could impact the design of the turbine foundations. A karst feature inspection protocol that was developed for the M18 Gort to Tuam motorway scheme will be adopted to inspect and mitigate any active karst features along the access roads or at crane hardstandings. Investigations involving trial pits, dynamic probes and geophysical surveys will be used to assess the risk of karstification in the overburden and underlying Limestone bedrock.
 - Where necessary the reinforced concrete foundations for the turbines will be modified to mitigate the risk of karstification in the Limestone bedrock, which could include designing the pad foundations to span over cavities in the rock, controlled grouting with low mobility grout to fill open fissures or voids, or bored piles with casing to support the turbines in competent rock below zones of cavities or highly weathered, non-intact or highly fractured weak karstified rock. This work will be supervised by an experienced hydrogeologist to ensure that it does not adversely impact the underlying karst aquifer.
 - Effective design solutions will also be implemented where karst features are encountered along the access roads and at the crane hardstandings which could involve a combination of geogrid reinforcement and/or excavation of disturbed soil to be backfilled with layers of rockfill grading progressively coarser with depth to form a stable filter over cavities or voids in the underlying rock that preserves the existing hydrogeology.
- Having reviewed the karst risk assessment in the EIAR, I would consider that
 - A comprehensive assessment of possible karst features in the project area has been undertaken by experienced personnel by site walkovers and relevant desk study information on bedrock geology, topography and aerial photographs.
 - The site classification of low to medium karst risk is consistent with the information presented in the EIAR and the bedrock geology in the project area. It is likely that the assessment of the number of karst features is conservative and that some of the dolines are not active karst features.
 - I would also agree that the extensive network of streams on the site indicate that the site hydrology/hydrogeology is characterised by overland flow of surface runoff rather than by a network of subterranean streams and diffuse flow along open fissures, caves and cavities in a karstified aquifer.
 - The good quality rock that was encountered in the rotary corehole at Turbine T7, which is closest to the swallow holes at the centre of the site, demonstrates

how open karst features can be quite localised and not necessarily connected to an extensive network of underground caves or open fissures.

- The proposed methodology for further assessment and mitigation of the karst risk by supplemental investigations at detailed design stage and by inspections during construction is consistent with current design practice and can comprehensively mitigate the karst risk at the specific locations of the turbines, crane hardstandings, substation and site access roads across the site.
- The proposed methods for mitigating the impact of karst features that are identified by supplemental investigation and inspection during the detailed design and construction stage of the project are consistent with current practice for large civil, building and infrastructure developments in areas of karstified limestone in Ireland – even in areas of active karst features in more developed karstified bedrock aquifers, where the karst risk would be classified as High.
- The proposed methods for mitigating the impact of karst features by design are also consistent with current practice in Ireland. The geotextile and reverse filter rockfill designs proposed for the access tracks and hardstanding areas have been developed for road schemes in Ireland to minimise the impact on the underlying karst aquifer by spanning over voids while preserving the existing hydrogeology with a stable permeable rockfill. The methods for constructing the turbine foundations - by spanning over voids, by grouting to fill small cavities or open fissures with low mobility grout, or by bored pile foundations with casing to support the turbines in competent rock below zones of cavities or highly weathered, non-intact or highly fractured weak karstified rock - can be adapted to the conditions encountered to provide adequate support to the turbines while minimising any impact on the bedrock aquifer. All these designs have been successfully implemented in sensitive active mature karst environments in Ireland.

Document Approval Form			
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Rev.0		7/9/2026	DRAFT for Review
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