GALETECH
ENERGY SERVICES

Seven Hills Wind Farm

Environmental Impact Assessment Screening

Energia Renewables ROI Limited

DOCUMENT CONTROL

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RECORD OF CHANGES

Revision Number	Issue Date	Summary of Change	Approved
00	15/12/2025	Content	Simon Carleton
01			
02			

DISTRIBUTION LIST

#	Purpose	Company	Name (optional)
01	Section 146B Request	An Coimisiún Pleanála	-
02			
03			
Notes:			

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1.0 INTRODUCTION

Galetech Energy Services (GES) has prepared this Environmental Impact Assessment (EIA) Screening to support a request to alter the terms of the planning permission granted in respect of the Seven Hills Wind Farm ('the permitted development'), located in County Roscommon (An Coimisiún Pleanála Reference ABP-313750-22).

The proposed alteration, in summary, seeks to omit and re-route permitted underground cables, omit electrical equipment to be installed within the Athlone 110kV electricity substation, construct a short section of access track and install a short section of underground cables.

The purpose of this EIA Screening is to examine the necessity for an Environmental Impact Assessment (EIA) to be undertaken for the proposed alteration pursuant to Section 146B(3)(b)(i) of the Planning & Development Act 2000 (as amended). The aim is to assist An Coimisiún Pleanála ('the Commission') in carrying out its statutory screening procedure pursuant to Schedule 7A of the Planning & Development Regulations 2001 (as amended).

2.0 SCREENING METHODOLOGY

This EIA Screening has been prepared following the general sequential methodology illustrated in Figure 1, having regard to the relevant criteria in both European and Irish legislation and guidance, including as set out in the following documents:-

- EIA Directive *2011/92/EU* and 2014/52/EU;
- *Planning & Development Act 2000 (as amended)* ('the Planning Act');
- *Planning & Development Regulations 2001 (as amended)* ('the Planning Regulations');
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA; 2022);
- *Guidelines for Planning Authorities and An Bord Pleanála in Carrying out Environmental Impact Assessments* (DoHPCLG; 2018);
- *Environmental Impact Assessment of Projects: Guidance on Screening (European Commission, 2017);*
- *Interpretation of Definitions of Project Categories of Annex I and II of the EIA Directive (European Commission, 2015);* and,
- *Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development*, DoECLG (2003).

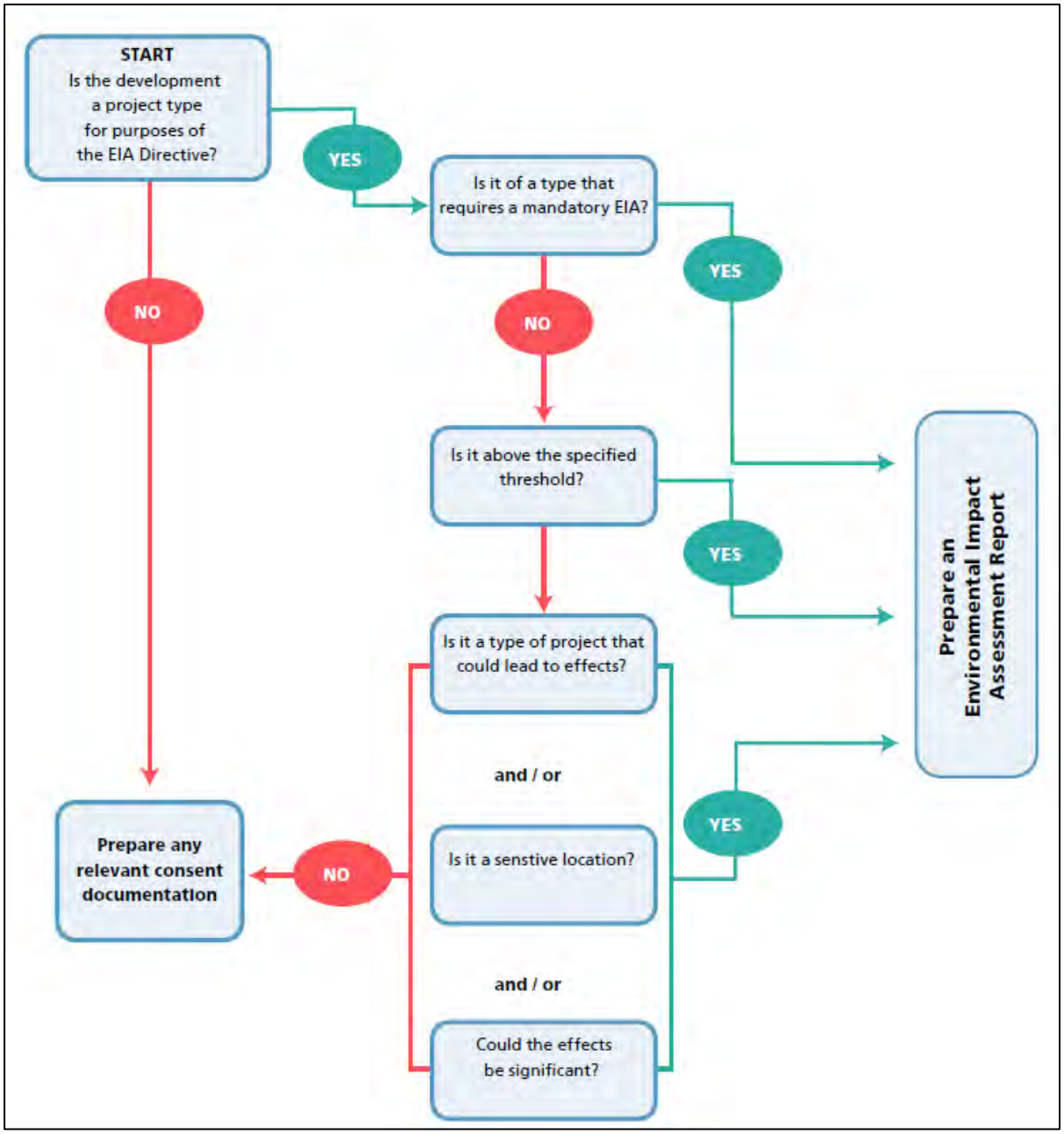

Figure 1: Screening Methodology

Source: Adapted from the Guidelines on Information to be Contained in Environmental Impact Assessment Reports (EPA; 2022)

3.0 DESCRIPTION OF THE PROPOSED ALTERATION

The proposed alteration comprises:-

1) The omission of approximately 9km of 110kV underground cabling and associated ancillary infrastructure between Brideswell and the Athlone 110kV electricity substation;
2) The omission of all permitted upgrades to the Athlone 110kV electricity substation;
3) The re-routing of wind farm cabling between the wind turbines and the on-site 110kV electricity substation; and,

4) The construction of approximately 520m of wind farm access track and installation of approximately 760m of wind farm cabling between turbine T18 and the on-site electricity substation.

4.0 LEGISLATIVE REQUIREMENTS

The EIA Directive requires that an EIA should only be required for projects likely to have significant effects on the environment. The start of the EIA process therefore involves a screening procedure to determine whether an EIA is required and, as a consequence, whether an Environmental Impact Assessment Report (EIAR) needs to be prepared and submitted. This determination process begins by examining the relevant legislation. If this does not provide a clear answer then the nature and extent of the proposed development, the site and the types of potential effects are subsequently examined.

The first criteria is to examine whether the proposed alteration is a type that is prescribed in the EIA Directive, as transposed into Irish law via the Planning Regulations. If a project is not of a type that is included in the Planning Regulations, then there is no mandatory requirement for it to be the subject of an EIA.

The classes of development where an EIA is mandatory are set down in Schedule 5 of the Planning Regulations, pursuant to Article 93. Schedule 5 consists of two parts; Part 1 corresponds to Annex I of the EIA Directive and an EIA is mandatory for all projects listed therein. Part 2 corresponds with Annex II of the EIA Directive and, where a listed project meets or exceeds the specified threshold, an EIA is also a mandatory requirement.

Wind farm developments are listed in Part 2, with a specified threshold of more than 5 no. turbines or 5-megawatts of total electricity output (Paragraph 3(i)). As the permitted development exceeds this threshold, it was subject to EIA. Accordingly, as the proposed alteration relates to a permitted wind farm development which has already been authorised and subject to EIA; Schedule 5, Part 2, Paragraph 13 – '*changes, extensions, development and testing'* is considered the applicable criteria for assessing whether or not EIA is required. It is stated at sub-section (a) that an EIA shall be required for:-

> *"Any change or extension of development already authorised, executed or in the process of being executed (not being a change or extension referred to in Part 1) which would:-*
>
> *(i) result in the development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this schedule, and*
>
> *(ii) result in an increase in size greater than –*
>
> *- 25 per cent, or*
>
> *- an amount equal to 50 per cent of the appropriate threshold,*
>
> *whichever is the greater."*

In the first instance, the proposed alteration is not a change or extension referred to in Part 1 and will also not give rise to a development of a type listed at Part 1 of Schedule 5 of the Planning Regulations. Secondly, the permitted development has previously been subject to EIA and the proposed alteration will not generate or result in a development listed at paragraphs 1 to 12 of Part 2 of Schedule 5.

Schedule 5, Part 2 also provides that, where a project is sub-threshold, but it is

determined, following an individual case-by-case examination, likely to have a significant effect on the environment, an EIA is also required. In making such a determination, the characteristics of the project and its likely significant effects on the environment, must be examined as per the criteria laid down in Annex III of the EIA Directive as transposed into Irish law via Article 103 and Schedule 7A (and Schedule 7) of the Planning Regulations. This determination must be made by the competent authority (in this case, the Commission) and made available to the public.

The EIA Directive also provides that the available results of other relevant assessments of the effects on the environment carried out pursuant to European Union (EU) legislation, other than the EIA Directive, shall also be taken into account in this examination and determination e.g. the Habitats Directive 92/43/EEC. Additionally, a description of any design features and/or mitigation measures included to effectively reduce what might otherwise have been likely significant adverse effects on the environment shall also be provided.

4.1 SCHEDULE 7A SCREENING

Schedule 7A of the Planning Regulations sets out the information which must be provided to a competent authority for the purposes of screening sub-threshold development for EIA. The requisite information, which reflects that of Annex III of the EIA Directive as discussed above, is grouped under 4 no. headings, as follows:-

"1) A description of the proposed development, including in particular:-

a) a description of the physical characteristics of the whole proposed development and, where relevant, of demolition works; and,

b) a description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.

2) A description of the aspects of the environment likely to be significantly affected by the proposed development.

3) A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from:-

a) the expected residues and emissions and the production of waste, where relevant; and,

b) the use of natural resources, in particular soil, land, water and biodiversity.

4) The compilation of the information at paragraphs 1 to 3 shall take into account, where relevant, the criteria set out in Schedule 7."

Table 1, below, sets out the information by which the proposed alteration must be examined.

Planning & Development Regulations 2001 (as amended) Schedule 7A Screening		
	Construction Phase	Operation Phase
A description of the proposed development, including in particular:-		
A description of the physical characteristics of the whole proposed development and, where relevant, of demolition works.	<u>Omission of 110kV Underground Cabling</u> The permitted development provides for the connection of the on-site electricity substation to the Athlone 110kV electricity substation via approximately 12km of underground electrical cabling and associated electrical equipment (joint bays, communication chambers, etc.). However, as described above, it is no longer proposed to connect to the Athlone 110kV substation; and, instead, the Seven Hills Wind Farm will connect to the national electricity network via a new 110kV electricity substation at Moyvannan (County Roscommon) and the installation of approximately 7.5km of underground electricity line. Accordingly, the section of underground cabling (approximately 9km in length) and associated infrastructure between the junction of the R363 and the L7636, in the village of Brideswell, and the Athlone 110kV electricity substation is no longer required, is not proposed to be constructed and is proposed to be omitted from the development as permitted. Furthermore, all construction activities associated with the installation of this section of underground cabling; including horizontal directional drilling (HDD) at 3 no. locations; will also no longer be required. <u>Omission of Upgrade Works to Athlone 110kV Electricity Substation</u> The permitted development provides for the completion of upgrade works to the Athlone 110kV electricity substation comprising the construction of a 110kV air-insulated switchgear bay and the installation of electrical equipment including *inter alia* a circuit breaker, transformers and surge arrestors. Given that the Seven Hills Wind Farm will no longer connect to the Athlone 110kV electricity substation, the	During operations, the infrastructure proposed to be omitted will not be present; while the wind farm cabling proposed to be re-routed and the new section of wind farm cabling will be located underground. The proposed access track will also remain for the duration of operations.

	permitted upgrade works will no longer be required and are not proposed to be completed. Therefore, it is proposed to omit the carrying out of these works from the development as permitted. <u>Re-routing of Wind Farm Cabling</u> Wind farm cabling connecting the wind turbines to the on-site electricity substation is located in both private lands and the public road network. From the northern cluster, wind farm cabling, from each turbine, currently follows the network of access tracks to the site entrance from the R363. From this point, the cabling follows the R363 for approximately 4km before re-entering private lands and continuing along wind farm access tracks to the electricity substation. It is proposed to alter the route of the cabling to reduce the distance within which the cabling is installed within the R363. Having exited the northern cluster, the cabling will follow the R363 for a distance of c. 1.7km to the junction of the R363 and L7535 before continuing along the L7535 for a distance of c. 0.5km and entering the southern cluster. The wind farm cabling will then follow the network of access tracks within the southern cluster to turbine T18. Wind farm cabling arising from the southern cluster of turbines currently follows the network of access tracks to the site entrance from the L7535, continues along the L7535 for a distance of c. 0.5km and follows the R363 for a distance of c. 2.3km before re-entering private lands and following wind farm access tracks to the electricity substation. It is proposed to alter the route of the cabling such that all cabling is directed from each individual turbine along the network of access tracks to turbine T18. Accordingly, there will no longer be any wind farm cabling associated with the southern cluster of turbines located within the public road network. <u>Construction of Access Track and Installation of Wind Farm Cabling</u> All wind farm cabling from both the northern and southern wind turbine clusters will be re-routing to turbine	

	T18. From T18, it is proposed to construct approximately 520m of wind farm access track to the electricity substation. In addition, it is proposed to install approximately 760m of wind farm cabling immediately adjacent to the access track which will connect the cabling from the northern and southern clusters to the electricity substation. The wind farm access track will be identical to those already permitted at the wind farm site and will have a general running width of 4-5m. Similarly, the access track will be constructed using similar methodologies to the permitted access tracks, with the precise methodology being dependent on localised ground conditions. All environmental control and mitigation measures committed to in respect of the permitted access tracks, and wider project as relevant, shall be applied in full to the proposed access track. The wind farm cabling will, similarly, be constructed identically to that of the permitted development and will be installed in ducting within a trench of approximately 1.2m in depth. As above, all relevant construction methodologies, environmental controls and mitigation measures applicable to the permitted wind farm cabling shall be applied to the proposed cabling.	
A description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.	The proposed alteration will be located almost exclusively within the lands associated with the permitted Seven Hills Wind Farm. The proposed access track and new section of wind farm cabling will be located in lands which did not previously form part of the wind farm site and are located in the townlands of Clooncaltry, Curry and Cam; however, the subject lands are immediately adjacent to the site of the permitted development. The site of the proposed alteration is generally located approximately 1.5km northeast and southeast of the village of Dysart and approximately 11km west/northwest of the town of Athlone, Co. Roscommon. The proposed omission of the 110kV underground	The proposed alteration will result in a notable reduction in the overall spatial extent of the permitted development arising, predominately, from the omission of approximately 9km of 110kV underground cabling. Additionally, the re-routing of approximately 2.3km of wind farm cabling from the public road network will further reduce the extent of the project. The proposed access track and wind farm cabling will be located on lands which, while not previously forming part of the permitted development, are immediately adjacent to same. Turbine T18 is located immediately south/southwest of the proposed infrastructure and the on-site electricity substation is located to the east. Thus, the proposed alteration will not result in a notable increase in the footprint of the project and will not, by virtue of its

	cabling will be located at a greater proximity to Athlone, approximately 2km west at its nearest point. Given the characteristics and geographic location of the proposed alteration, the receiving environment of the proposed alteration is as described in the EIAR for the permitted development.	centrally-located position within the overall project layout, increase the spatial extent of the development.
A description of the aspects of the environment likely to be significantly affected by the proposed development.		
Population & Human Health	The proposed alteration relates, predominately, to the omission of permitted electrical infrastructure including 9km of 110kV underground cabling and electrical equipment within the Athlone 110kV electricity substation. The re-routing of wind farm cabling will follow permitted methodologies and implement permitted mitigation measures and no significant effects are likely to occur. The construction of the proposed access track and installation of the wind farm cabling is located on private lands, at a substantial distance from local residences and will be undertaken following methodologies already permitted in respect of similar infrastructure within the development. Accordingly, it is assessed that no significant construction phase effects are likely regarding population and human health.	During operations, it is assessed that the proposed alteration will not result in any likely significant long-term effects on population or human health. The omission of electrical infrastructure will ensure that there can be no effects on population or human health; while, given its underground nature, the revised routing of wind farm cabling and new section of cabling are not assessed as having any effect on population or human health. Similarly, the presence of the proposed section of access track will have no likely significant effect during the operation phase.
Biodiversity & Ornithology	The omission of electrical infrastructure will have no likely significant effect on biodiversity and ornithology. The re-routing of wind farm cabling will be carried out within or immediately adjacent to the public road network of wind farm access track. Accordingly, it is assessed that, with the implementation of all relevant mitigation measures set out in the EIAR, the works will have no likely significant effect on biodiversity or ornithological receptors as they will be undertaken in lands which have previously been disturbed or will be disturbed as part of the construction of the wider permitted development.	The omission of electrical infrastructure and re-routing of wind farm cabling will have no likely significant long term effect on biodiversity and ornithology. Similarly, the proposed section of wind farm cabling will have no likely significant effect due to its location below ground. It is assessed that the proposed alteration (construction of access track and installation of wind farm cabling) will have no effect on ecological receptors during the operation phase.

	The construction of the proposed access track and installation of wind farm cabling has been assessed and is likely to have an effect on biodiversity and ornithology through a loss of habitats, reduction in nesting habitats for birds, loss of foraging and commuting habitats for bats, and a loss of foraging habitats for badgers. However, as assessed at Annex 1, significant effects are not likely having regard to compensatory habitat measures and the implementation of all mitigation measures, as relevant, set out in the EIAR.	
Land, Soils & Geology	The omission of electrical infrastructure will have no likely significant effect on land, soils and geology. The re-routing of wind farm cabling will be carried out within or immediately adjacent to the public road network of wind farm access track. Accordingly, it is assessed that, with the implementation of all relevant mitigation measures set out in the EIAR and ensuring compliance with Condition No. 6 of Reference ABP-313750-22, the works will have no likely significant effect on land, soil or geology as they will be undertaken in lands which have previously been disturbed or will be disturbed as part of the construction of the wider permitted development. The construction of the proposed access track and installation of wind farm cabling has been assessed and is likely to have an effect on land, soil and geology through excavations, contamination and a loss of land from agricultural production; however, as assessed at Annex 2, significant effects are not likely.	The omission of electrical infrastructure, re-routing of wind farm cabling and installation of wind farm cabling will have no likely significant long term effect on land, soil or geology. It is assessed (refer to Annex 2) that the proposed alteration will have no effect on land, soil or geology during the operation phase.
Water	The omission of electrical infrastructure will have no likely significant effect on water, including hydrology and hydrogeology. The re-routing of wind farm cabling will not result in any additional interaction with surface water or ground water features. With the implementation of all relevant mitigation measures set out in the EIAR and ensuring compliance with Condition No. 6 of Reference ABP-	The omission of electrical infrastructure, re-routing of wind farm cabling and installation of wind farm cabling will have no likely significant long term effect on water. It is assessed (refer to Annex 2) that the proposed alteration will have no effect on water during the operation phase.

	313750-22, to it is assessed that the works will have no likely significant effect on water. The construction of the proposed access track and installation of wind farm cabling has been assessed and is likely to have an effect on water through excavations and contamination; however, as assessed at Annex 2, significant effects are not likely.	
Air Quality & Climate	The proposed alteration will result in a reduced volume of construction activities. Accordingly, it is assessed that with the implementation of all mitigation measures set out in the EIAR for the permitted development, no significant construction phase effects on air quality and climate are likely.	During operations, the proposed alteration will have no likely significant effect on air quality & climate.
Noise & Vibration	The omission of electrical infrastructure will have no likely significant effect on noise & vibration; however, it should be noted that with the omission of approximately 9km of 110kV underground cabling and the re-routing of wind farm cabling, there will be a notable reduction in the quantity of noise-generating activities being undertaken proximate to residential properties. Activities associated with the construction of the proposed access track and installation of wind farm cabling will generate noise; however, given the distance of these works from the nearest residential properties (in excess of 500m) and with the implementation of all relevant mitigation measures set out in the EIAR and ensuring compliance with Condition No. 17 of Reference ABP-313750-22, no significant effects are assessed as likely. Similarly, these activities are not likely to give rise to a perceptible level of vibration beyond the immediate environs of the works area.	None of the infrastructure which is the subject of this proposed alteration is capable of generating noise or vibration effects during the operation phase. Accordingly, no significant effects are assessed as likely.
Landscape & Visual	The omission of electrical infrastructure and re-routing of wind farm cabling will have no likely significant effect on the landscape and will not result in any likely significant visual effects. While the construction of the proposed access track and installation of wind farm cabling will result in a short term	During operations, while the proposed access track will be above or at ground level, it will not be visible beyond its immediate environs and will not be evident from any public vantage point. Accordingly, it is assessed that significant landscape or visual effects are unlikely.

	adverse effect on the landscape due to excavations and the presence of construction plant and machinery; such effects will be extremely localised and are not assessed as likely to be significant.	
Cultural Heritage & Archaeology	The omission of electrical infrastructure will have no likely significant effect on the landscape and will not result in any likely significant effects on cultural heritage and archaeology. It is assessed that, as the revised routing of wind farm cabling will follow public roads and wind farm access tracks; each of which have previously been assessed in the EIAR; significant effects are not likely to arise. There are no previously recorded features located within the lands associated with the proposed access track and wind farm cabling. With the implementation of all mitigation measures committed to in the EIAR and ensuring compliance with Condition No. 16 of Reference ABP-313750-22, it is assessed that there is no likelihood of significant effects arising in the event that previously unrecorded heritage or archaeological features are encountered during construction works.	During operations, the proposed alteration will have no likely significant effect on cultural heritage.
Material Assets 1) Roads, Traffic, Transport & Access; 2) Aviation; 3) Telecommunications; and, 4) Resources & Utility Infrastructure	<u>Roads, Traffic, Transport & Access</u> The omission of 110kV underground cabling and the re-routing of wind farm cabling will result in a substantial reduction in infrastructure to be installed within the public road corridor. The omission of these works will, in turn, avoid the requirement for excavations (direct effects) to be undertaken within the road corridor and will also avoid traffic disruption (indirect effects) and the requirement for traffic management measures at the relevant locations. The proposed access track and additional wind farm cabling are each located within private lands and will have no direct effect on roads, traffic, transport and access. The construction of the proposed access track and installation of wind farm cabling will result in an increased volume of construction traffic (heavy goods vehicles	The proposed alteration will have no likely significant operation phase effect on transport and access, aviation, telecommunications or resources and utility infrastructure.

	[HGVs]) delivering construction materials (e.g. stone, geotextile, cabling, etc.); however, this increase will be more than off-set by the volume of HGVs which will no longer be required due to the omission of approximately 9km of 110kV underground cabling. Overall, therefore, it is assessed that the proposed alteration will not have a likely significant effect on roads, traffic, transport and access. <u>Aviation & Telecommunications</u> The proposed alteration will have no effect on aviation or telecommunications as it relates to infrastructure at or below ground level. <u>Resources & Utility Infrastructure</u> The proposed alteration will result in a reduced use of resources during construction due to the omission of infrastructure through a reduced requirement for construction and other materials. Having regard to the characteristics and location of the proposed alteration, it is assessed that there is no likelihood of significant effects. If particular the re-routing wind farm cabling, construction of the access track and installation of additional wind farm cabling will be completed in accordance with all construction methodologies and mitigation measures as described in the EIAR.	
Interactions	All potential interactions have been assessed in the foregoing sections, and it is assessed that the proposed alteration will have no likely significant effect on the environment.	All potential interactions have been assessed in the foregoing sections, and it is assessed that the proposed alteration will have no likely significant effect on the environment.
Major Accidents & Natural Disasters	Having regard to the characteristics of the proposed alteration, it is assessed that, with the implementation of all mitigation measures set out in the EIAR for the permitted development, no major accidents or natural disasters are likely during the construction phase.	Having regard to the characteristics of the proposed alteration, it is assessed that, with the implementation of all mitigation measures set out in the EIAR for the permitted development, no major accidents or natural disasters are likely during the operation phase.
A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from:-		

The expected residues and emissions and the production of waste, where relevant.	The proposed alteration does not comprise a significant increase or intensity of construction activities such that a substantial volume of waste, residues and emissions are likely to be generated. Accordingly, it is assessed that with the implementation of all mitigation measures set out in the EIAR for the permitted development, no significant residues, emissions or wastes are likely to be produced.	No significant residues, emissions or waste are likely to be generated as a consequence of the proposed alteration.
The use of natural resources, in particular soil, land, water and biodiversity.	The construction of the access track and installation of wind farm cabling will result in the excavation of soil and the use of rock/stone. However, the use of these resources will be more than off-set by the omission of the 110kV underground cabling. Accordingly, it is assessed that the proposed alteration will not result in a significant use of natural resources.	No out of the ordinary use of natural resources will arise due to the proposed alteration.
The compilation of the information at paragraphs 1 to 3 shall take into account, where relevant, the criteria set out in Schedule 7.		
Schedule 7 Screening	The information referred to above has been provided taking account of the criteria; which is further discussed at Section 4.2 below.	

Table 1: Schedule 7A Screening Assessment Information

4.2 SCHEDULE 7 SCREENING

Schedule 7 of the Planning Regulations sets out the criteria for determining whether or not sub-threshold developments would, or would not be, likely to have significant effects on the environment. These criteria correspond with Annex III of the EIA Directive and are grouped under 3 no. headings, as follows:-

1) Characteristics of the Proposed Development;
2) Location of the Proposed Development; and,
3) Types & Characteristics of Potential Impacts.

Table 2, below, sets out the criteria by which the proposed alteration must be assessed.

Planning & Development Regulations 2001 (as amended) Schedule 7 Screening		
Characteristics of the Project	Construction Phase	Operation Phase
The characteristics of the proposed development in particular:-		
The size of the proposed development.	The proposed alteration will avoid the construction and installation of approximately 9km of 110kV underground cabling and approximately 2.3km of wind farm cabling. The proposed access track will extend to a length of approximately 520m and a width of 4-5m; while the additional section of wind farm cabling will also have an approximate length of 760m.	In the long term, the proposed alteration will marginally increase the footprint of the Seven Hills Wind Farm through the proposed access track. However, the overall spatial extent of the permitted development will be reduced due, predominately, to the omission of the 110kV underground cabling and wind farm cabling.
The cumulation with other proposed development.	The proposed alteration will be constructed concurrently with the permitted Seven Hills Wind Farm and the Moyvannan Electricity Substation (An Bord Pleanála Reference ABP-321238-24); however, cumulative effects are unlikely to arise due to the nature of the proposed alteration. With the implementation of all mitigation measures set out in the EIAR for the permitted development and those of the Moyvannan Electricity Substation; significant cumulative effects are unlikely to arise with the Seven Hills Wind Farm. Similarly, due to the characteristics of the proposed alteration, cumulative effects with other developments are no likely to be significant.	Given the characteristics of the proposed alteration, cumulative effects are not assessed as likely to be significant.
The use of natural resources, in particular land, soil, water and biodiversity.	The construction of the access track and installation of wind farm cabling will result in the excavation of soil and the use of rock/stone. However, the use of these resources will be more than off-set by the omission of the 110kV underground cabling. Accordingly, it is assessed that the proposed alteration will not result in a significant use of natural resources.	No out of the ordinary use of natural resources will arise due to the proposed alteration.
The production of waste	The proposed alteration does not comprise a significant increase or intensity of construction activities such that a substantial volume of waste is likely to be generated. Accordingly, it is assessed that with the implementation of all mitigation measures set out in the EIAR for the	No significant volume of waste is likely to be generated as a consequence of the proposed alteration.

	permitted development, no significant residues, emissions or wastes are likely to be produced.	
Pollution and nuisances	The proposed omission of electrical infrastructure and re-routing of wind farm cabling will not result in any pollution or nuisance. The construction of the proposed access track and installation of wind farm cabling will follow best practice methodologies which are identical to those approved in respect of the permitted development. Accordingly, it is assessed that with the implementation of all mitigation measures set out in the EIAR for the permitted development, no significant pollution or nuisance effects are likely to occur.	No likely significant pollution or nuisance is predicted to occur during the operational phase.
The risk of major accidents and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge	Having regard to the characteristics of the proposed alteration, it is assessed that, with the implementation of all mitigation measures set out in the EIAR for the permitted development, no major accidents or natural disasters are likely during the construction phase.	Having regard to the characteristics of the proposed alteration, it is assessed that, with the implementation of all mitigation measures set out in the EIAR for the permitted development, no major accidents or natural disasters are likely during the operation phase.
The risk to human health (for example due to water contamination or air pollution)	Given the characteristics of the proposed alteration and those of the receiving environment, it is assessed that the proposed alteration does not pose a risk of likely significant effects on human health. It is assessed that there is no likely significant risk of water contamination, air pollution or noise pollution.	No likely significant effects are assessed as likely during the operation phase.
Location of Proposed Development	Construction Phase	Operation Phase
The environmental sensitivity of geographical areas likely to be affected by proposed development, having regard to:-		
The existing land use.	The proposed access track and wind farm cabling will be construction/installed on lands which are currently used for agricultural purposes. While a small area will be lost from agricultural production due to construction activities, it is assessed that this loss will not result in any likely significant effect on land use locally or in the wider area.	While a small area will be lost from agricultural production due to the long-term presence of the access track, it is assessed that this loss will not result in any likely significant effect on land use locally or in the wider area.
The relative abundance, quality and regenerative capacity of natural resources in the area.	Due to the characteristics of the proposed alteration, it is assessed that the proposed alteration will not affect the	The operational phase will not have any likely significant effect on natural resources.

	abundance, quantity or regenerative capacity of natural resources in the area.	
The absorption capacity of the natural environment, paying attention to the following areas:- a) wetlands, b) coastal zones, c) mountain and forest areas, d) nature reserves and parks, e) areas classified or protected under legislation, including special protection areas designated pursuant to Directives 79/409/EEC and 92/43/EEC, f) areas in which the environmental quality standards laid down in legislation of the EU have already been exceeded, g) densely populated areas, h) landscapes of historical, cultural or archaeological significance.	The site of the proposed alteration and its immediate environs is located primarily on grasslands; and do not comprise wetlands, coastal zones, mountain or forest areas, nature reserves and parks, areas protected under legislation, densely populated areas or landscapes of historical/cultural/archaeological significance. This finding is based on the assessments undertaken in the EIAR for the permitted development and the characteristics of the proposed alteration.	The proposed alteration is assessed to be compatible with the area, and permitted land use, and can be readily absorbed within the local environment.
Characteristics of Potential Impacts	Construction Phase	Operation Phase
The potential significant effects of proposed development in relation to criteria set out under paragraphs 1 and 2 above, and having regard in:-		
The magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected).	The proposed alteration will avoid the construction and installation of approximately 9km of 110kV underground cabling and approximately 2.3km of wind farm cabling. The proposed access track will extend to a length of approximately 520m and a width of 4-5m; while the additional section of wind farm cabling will also have an approximate length of 760m. Due to the nature, scale and characteristics of the proposed alteration, together with the distance to residential dwellings, effects experienced by local residents are not assessed as likely to be significant.	In the long term, the proposed alteration will marginally increase the footprint of the Seven Hills Wind Farm through the proposed access track. However, the overall spatial extent of the permitted development will be reduced due, predominately, to the omission of the 110kV underground cabling and wind farm cabling.

The nature of the impact.	Due to the characteristics of the proposed alteration and the nature of the receiving environment, it is assessed that with the implementation of appropriate construction methodologies and all mitigation measures set out in the EIAR for the permitted development, significant effects are not likely to arise.	Following the completion of construction activities, no significant effects are assessed as likely.
The transboundary nature of the impact.	The proposed alteration is confined to the administrative jurisdiction of Roscommon County Council. No transboundary effects are likely to occur.	No operation phase transboundary effects are predicted.
The intensity and complexity of the impact.	The proposed alteration relates to the omission of electrical infrastructure, the re-routing and installation of underground wind farm and construction of a short section of access track. It is assessed that with the implementation of all mitigation measures set out in the EIAR for the permitted development, no intense or complex effects are anticipated.	Operational phase effects are not assessed as likely to be significant, intense or complex.
The probability of the impact.	It is assessed that the magnitude and complexity of effects are not likely to be significant due to the implementation of appropriate construction methodologies and all mitigation measures as set out in the EIAR for the permitted development.	It is assessed that any effects will not be significant.
The expected onset, duration, frequency and reversibility of the impact.	Effects during the construction phase will be short-term; however, with the implementation of all construction methodologies and mitigation measures set out in the EIAR, it is assessed that significant effects are not likely to arise.	Any effects during the operational phase will be long-term; however, given the characteristics of the proposed alteration, no significant operational phase effects are assessed as likely to occur.
Cumulation of the impact with the impact of other existing and/or approved projects.	The proposed alteration will be constructed concurrently with the permitted Seven Hills Wind Farm and the Moyvannan Electricity Substation (An Bord Pleanála Reference ABP-321238-24); however, cumulative effects are unlikely to arise due to the nature of the proposed alteration. With the implementation of all mitigation measures set out in the EIAR for the permitted development and those of the Moyvannan Electricity Substation; significant cumulative effects are unlikely to arise with the Seven Hills Wind Farm.	Given the characteristics of the proposed alteration, cumulative effects are not assessed as likely to be significant.

	Similarly, due to the characteristics of the proposed alteration, cumulative effects with other developments are no likely to be significant.	
The possibility of effectively reducing the impact.	The proposed alteration (re-routing and installation of wind farm cabling and construction of access track) will be constructed in accordance with well-known and understood construction methodologies which will, in addition to the implementation of all environmental controls and mitigation measures set out in the EIAR, will ensure that any effects will be minimised to the greatest possible extent and are assessed as not likely to be significant.	Due to the characteristics of the proposed alteration, significant operational phase effects are not anticipated. The implementation of all operational phase mitigation measures as set out in the EIAR will minimise the effects experienced by receptors and are assessed as not likely to be significant.

Table 2: Schedule 7 Screening Assessment Criteria

5.0 CONCLUSION

This EIA Screening concludes that:-

- The proposed alteration is not of a type, scale or threshold as set down in Schedule 5 of the Planning Regulations where an EIA would be mandatory; and,
- The proposed alteration will not give rise to impacts of a magnitude which, on its own or cumulatively, could cause a likely significant effect on the environment as assessed using the information and evaluation criteria set down at Schedule 7A of the Planning Regulations.

Accordingly, it is assessed, by way of an examination of the required criteria, that an EIA, and therefore the submission of an EIAR, is not required in respect of the proposed alteration.

ANNEX 1 – ADDENDUM TO THE EIAR BIODIVERSITY CHAPTER

Addendum to the EIAR Biodiversity Chapter

Seven Hills Wind Farm

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SLR Project No.: 501.065999.00001

Client Reference No: 00581

10 December 2025

Revision: 0

Revision Record

Revision	Date	Prepared By	Checked By
0	10 December 2025	Jake Matthews	Jonathon Dunn

Basis of Report

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Executive Summary

The purpose of this report is to assess whether a proposed alteration to the permitted Seven Hills Wind Farm has the potential to lead to additional impacts on ecological receptors and alter the conclusions made in the Environmental Impact Assessment Report (EIAR), Volume I, Chapters 6 (Biodiversity) and 7 (Ornithology).

The proposed alteration involves a minor change to the permitted underground wind farm cable, which connects the wind turbine clusters to the electricity substation. In summary, the cables will be re-routed from the northern turbine cluster through the southern turbine cluster and a new parcel of land to the electricity substation. The new cabling route will follow existing and new access tracks; while a section of access track (c. 520 m) between turbine T18 and the electricity substation following the alignment of the underground cable will also be created. The permitted section of 110kV grid connection cable from Brideswell to Monksland and the upgrade works to the Athlone 110kV electricity substation are proposed to be omitted. Following the granting of permission for the Moyvannan Substation and associated underground cabling, the cable between Brideswell and Monksland and works at the Athlone substation will no longer be required.

Other than an additional loss of 0.001 ha of Annex I Orchid-rich grassland, which has been appropriately compensated for in the Biodiversity Management and Enhancement Plan, there will be no significant differences in impacts to flora and fauna by the proposed alteration. The proposed alteration will result in only marginal vegetation loss including improved agricultural grassland, hedgerow and scrub.

Overall, with the previously committed mitigation measures in place, there are no changes to the assessment of residual effects on biodiversity because of the proposed alteration, and the conclusions to EIAR Chapters 6 for the permitted development still apply.

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Acronyms and Abbreviations

AA	Appropriate Assessment
ACP	An Coimisiún Pleanála
BCT	Bat Conservation Trust
BMEP	Biodiversity Management and Enhancement Plan
EcIA	Ecological Impact Assessment
EIAR	Environmental Impact Assessment Report
GES	Galetech Energy Services
KER	Key Ecological Receptors
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
SLR	SLR Environmental Consulting (Ireland) Ltd
S-P-R	Source-Pathway-Receptors

1.0 INTRODUCTION

SLR Environmental Consulting (Ireland) Ltd (SLR) was commissioned by Galetech Energy Services (GES) on behalf of Energia Renewables ROI Limited (Energia) to prepare an addendum to the Environmental Impact Assessment Report (EIAR) in support of a proposed alteration to the permitted Seven Hills Wind Farm (An Coimisiún Pleanála (ACP) Reference: ABP-313750-22[1]).

This addendum to EIAR Chapter 6 – Biodiversity and Chapter 7 - Ornithology presents an assessment of the likely significant effects of the project on the receiving environment.

This chapter addendum provides:

- A baseline study of the receiving ecological environment, including survey methodology and results;
- An assessment of the likely significant effects of the project during construction, operation and decommissioning phases;
- An assessment of likely significant cumulative effects;
- Mitigation measures to avoid or reduce the likely significant effects anticipated;
- Residual impacts; and,
- Enhancement measures.

The previous EIAR[2] and AA / NIS[3] for the permitted project was used to inform the current assessment.

1.1 Summary of the Permitted Development

1.1.1 Seven Hills Wind Farm

Seven Hills Wind Farm was granted planning permission subject to condition by ACP on 23 November 2023 as detailed under order 313/D313750. This allows for a ten-year planning permission on the following:

- 20 number wind turbines with an overall ground to blade tip height of 180 meters, a rotor diameter of 162 metres and a hub height of 99 metres, associated foundations and hard-standing areas;
- 15 number spoil storage areas at hardstands of turbine numbers 1, 2, 3, 4, 5, 6 and 7 (in the townlands of Turrock, Gortaphuill, Cronin and Tullyneeny) and turbine numbers 8, 10, 11, 13, 14, 17, 19 and 20 (in the townlands of Milltown, Cuileenoolagh, Cloonacaltry, Feacle and Tawnagh);
- Provision of 1 number permanent meteorological mast with a maximum height of 100 metres for a period of 30 years from the date of commissioning the entire wind farm;
- Provision of 1 number 110 kV onsite substation in the townland of Cam, along with associated control buildings, MV switchgear building, associated electrical plant, associated security fencing, and equipment and wastewater tank;

[1] https://www.pleanala.ie/en-ie/case/313750

[2] MKO (2022a). Proposed Seven Hills Wind Farm Co. Roscommon – EIAR Ch. 6 – Biodiversity – F – 2022.06.03 - 190907

[3] MKO (2022b). Proposed Seven Hills Wind Farm Co. Roscommon – Article 6 (3) Appropriate Assessment Screening Report. AASR – F – 2022.06.03 - 190907

- All underground electrical and communication cabling connecting the proposed wind turbines to the proposed onsite substation and associated control buildings and plant;
- All works associated with the connection of the proposed wind farm to the national electricity grid via underground 110 kV cabling from the site to the existing Athlone
- 110 kV substation located in the townland of Monksland. Cabling will be placed within the public road corridor of the R362, R363 and L2047, or on private land;
- Upgrade works to the existing 110 kV Athlone substation consisting of the construction of an additional dedicated bay to facilitate connection of the cable;
- Provision of 2 number new site accesses north and south from the R363 and upgrade of 1 number junction south of the R363;
- Provision of new access tracks or roads and upgrade of existing access tracks or roads;
- 7 number overburden storage areas;
- 2 number temporary construction compounds;
- Site drainage works;
- Operational stage site signage;
- All associated site development works, apparatus and signage; and
- A 30-year operational life from the date of commissioning.

On 23 November 2023, ACP granted planning permission for the development subject to conditions; including, in particular, Condition No. 4 which omits turbines T9, T10 and T12 from the development as permitted.

1.2 Summary of the Proposed Alteration

The proposed alteration is shown in Figure 1. The proposed alteration comprises the following:

- The omission of approximately 9km of 110kV underground cabling and associated ancillary infrastructure between Brideswell and the Athlone 110kV electricity substation;
- The omission of all permitted upgrades to the Athlone 110kV electricity substation;
- The re-routing of wind farm cabling between the wind turbines and the on-site 110kV electricity substation; and,
- The construction of approximately 520m of wind farm access track and installation of approximately 760m of wind farm cabling between turbine T18 and the on-site electricity substation.

Given that the proposed omission of the 110kV underground cabling and upgrades to the Athlone 110kV electricity substation will have no effect on ecological receptors, this assessment focuses predominately on the proposed re-routing of wind farm cabling, construction of approximately 520m of access track and installation of approximately 760m of wind farm cabling.

1.3 Purpose of this Report

The purpose of this addendum is to assess whether the proposed alteration is likely to impact any important ecological features associated with the permitted development and alter the

conclusions made in EIAR Chapters 6 and 7 (Biodiversity and Ornithology)[4]. It should be read in conjunction with the documents submitted with the planning application for the permitted development, specifically, EIAR Volume I, Chapters 6 and 7 (Biodiversity and Ornithology). It should also be read in conjunction with the addendum to the AA Screening and NIS for the proposed alteration[5] and the NIS for the permitted development[6].

1.4 Evidence of Technical Competence

This report was written by SLR Senior Ecologist Jake Matthews. Jake has over five years' experience as a consultant ecologist across several consultancies in Ireland and the UK. He is an Associate Member of the Chartered Institute of Ecology and Environmental Management (ACIEEM) and holds a BSc (Hons) in Wildlife Conservation from the University of Salford and an MSc in Ecology and Environment Management from Liverpool Hope University. Jake has prepared a range of survey reports and impact assessment reports for a variety of project types including wind farms. He is also skilled in conducting a range of surveys to inform these assessments including Ecological Impact Assessment (EcIA) and biodiversity chapters for EIAR.

A technical review was undertaken by Dr Jonathon Dunn MCIEEM. Jonathon co-wrote the EIAR ornithology chapter for the permitted development. He has extensive experience of designing and implementing baseline ecology surveys for over 20 wind farms in Ireland, along with impact assessment including EIAR, Ecological Impact Assessment (EcIA), AA screening and NIS.

2.0 METHODOLOGY

2.1 Scope

The scope of this assessment is informed by the potential for the proposed alteration to impact important ecological features. The only appreciable differences arising from the proposed alteration is a change in the route of the wind farm cabling and the proposed construction of c. 520m of access track and installation of c. 760m of wind farm cabling. There will be no alterations to the methods of construction, operation and maintenance or decommissioning / restoration.

Therefore, there is the potential for the following impacts:

- Additional habitat loss and/or degradation, including to Annex I habitat [6210*] Orchid-rich grassland;
- Potential impacts to fauna including:
  - Amphibians
  - Roosting, commuting and foraging bats;
  - Nesting birds;
  - Badgers and their setts;
  - Otters and other aquatic fauna; and

[4] MKO (2022a). Proposed Seven Hills Wind Farm, Co. Roscommon - EIAR.

[5] SLR (2025). Addendum to Appropriate Assessment Screening and Natura Impact Statement - Seven Hills Wind Farm. Ref. 501.065999.00001

[6] MKO (2022b). Proposed Seven Hills Wind Farm, Co Roscommon - Natura Impact Statement.

- All other protected flora and fauna (as detailed in the *Checklist of protected and threatened species in Ireland)*[7].

There will be a reduction of the footprint of the development due to the proposed alteration with approximately 9km of the permitted 110kV underground cable route from Brideswell to Monklsland and works to the Athlone 110kV substation being omitted. However, an additional area between turbine T18 and the electricity substation will be affected by the proposed alteration.

An addendum to the AA Screening and NIS for the permitted development is provided separately (SLR, 2025); therefore, we have not considered effects on European Sites in the current addendum.

2.2 Study Area

The study area included the proposed amended wind farm cable route plus a 50 m buffer either side and the route of the proposed access track and underground cable plus a 50 m buffer either side. This is shown in Figure 2. Considering the small-scale nature of the proposed works, this buffer was considered sufficient to provide a detailed baseline of the proposed alteration and the surrounding area.

The revised route of the wind farm cabling that is being installed under existing tracks were not surveyed as these areas formed low value habitats that were previously mapped in the EIAR and are unlikely to have changed in the intervening period. Similarly, the section of underground cable from Brideswell to Monksland and the Athlone 110kV substation was not surveyed as these areas will no longer form part of the project.

2.2.1 Habitats and Flora

A field survey of the study area was undertaken on 15th and 16th October 2025 by SLR Senior Ecologist Jake Matthews, whereby all habitats were mapped using the Fossitt Habitat Classification system[8]. Terrestrial habitats and flora (including invasive plant species) were mapped according to Fossitt (2000) and the good practice measures outlined in Heritage Council guidance (Smith et al., 2011)[9]. The locations of all habitats and any rare or invasive plant species were recorded using digital mapping.

Plant species nomenclature follows Rose's *The Wildflower Key: How to identify wildflowers, trees and shrubs in Britain and Ireland* (Rose et al., 2006). A list of the dominant and notable plant species was prepared for each habitat type.

Habitat surveys were conducted outside the optimal time of year. This limitation is detailed further in Section 2.3.

Table 2-1: Survey weather conditions and metadata

Date	Surveyor	Weather conditions	
15/10/2025	Jake Matthews	Temp. (°C)	10
		Wind speed (Bft[10])	3

[7] Nelson, B., Cummins, S., Fay, L., Jeffrey, R., Kelly, S., Kingston, N., Lockhart, N., Marnell, F., Tierney, D. and Wyse Jackson, M. (2019). Checklists of protected and threatened species in Ireland. Irish Wildlife Manuals, No. 116. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

[8] Fossitt J. (2000). A Guide to Habitats in Ireland. The Heritage Council.

[9] Smith G.F., O'Donoghue P., O'Hora K., and Delaney E. (2011). Best Practice Guidance For Habitat Survey And Mapping.

[10] Wind speed measured using the Beaufort scale.

Date	Surveyor	Weather conditions	
		Cloud cover (Oktas)	8/8
		Precipitation	Drizzle
16/10/2025		Temp. (°C)	11
		Wind speed (Bft)	2
		Cloud cover (Oktas)	8/8
		Precipitation	None

2.2.2 Annex I Habitats

An Annex I habitat survey was carried out for areas identified as [6210*] Orchid-rich grasslands to assess the extent and condition of this Annex I habitat. One of these areas identified was partially inside the study area from consultation with the National Parks and Wildlife Service (NPWS) Interactive mapviewer[11].

An assessment of this Annex I habitat was conducted through undertaking five relevés to assess the species composition across this habitat, following the guidance set out in the *Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland*.

The most recent Article 17 report on *The Status of EU Protected Habitats and Species in Ireland*[12] states that this habitat has an overall conservation status of 'bad' and that the area is 'bad'.

2.2.3 Fauna

Searches for mammals were carried out. All mammal resting / breeding places were mapped. In addition, any other signs / sightings were recorded and mapped using digital mapping. Survey methodology followed that outlined Cresswell et al. (2012)[13], with a particular focus on badger *Meles meles*.

The site's suitability for commuting and foraging bats was assessed following the current Bat Conservation Trust (BCT) guidance[14]. Similarly, all trees and buildings located within the study area were appraised for their suitability to support roosting bats, following the BCT guidance.

Searches were made for signs and sightings of terrestrial mammals within the study area and mapped using digital mapping.

The closest watercourse to the proposed alteration is the Ballyglass (EPA code: 26B15) located approximately 1.09 km north-west. Current guidance[15] states that otter holts or couches within 150 m are at risk of impacts from disturbance. Given that no watercourses were located within 150 m of the study area, otters were discounted from the survey.

Invertebrate species were recorded on an ad hoc basis during all surveys.

[11] https://storymaps.arcgis.com/collections/1a721520030d404f899d658d5b6e159a (last accessed: December 2025).

[12] NPWS (2019). The Status of EU Protected Habitats and Species in Ireland'

[13] Cresswell, W. J., Birks, J. D. S., Dean, M., Pacheco, M., Trewhella, W. J., Wells, D. and Wray, S. (2012) 'UK BAP Mammals Interim Guidance for Survey Methodologies', Impact Assessment and Mitigations. The Mammal Society, Southampton.

[14] Collins (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines. 4th edn. London: Bat Conservation Trust.

[15] NRA (2008). Guidelines For The Treatment Of Otters Prior To The Construction Of National Road Schemes

No specific surveys for reptiles were conducted and were searched for on an ad hoc basis during other surveys, as NRA (2009)[16] guidance states that direct observation is an effective survey technique.

Amphibians tend to be found within 250 m of breeding waterbodies. No waterbodies were identified within the study area, or within 250 m of it. Therefore, amphibians were discounted from the assessment.

2.3 Limitations

The updated field survey was conducted in October 2025. This is outside the optimal window for surveying flora and habitats and therefore, it is possible that certain flowering species were not evident during these surveys, including the Annex I habitat condition assessment. As such, desk-based data has been relied upon to supplement any potentially absent data and the precautionary principle has been considered during these assessments. This includes previous assessments of the adjacent habitats undertaken by MKO in the original EIAR Chapter 6 - Biodiversity, which borders the same parcel of Annex I habitat and was assessed during optimal conditions. As such, it is considered that this limitation does not pose a significant constraint to the overall assessment.

3.0 CHANGES TO THE EXISTING ENVIRONMENT

This section presents a description of the general context of the receiving (baseline) environment associated with the project. For all Key Ecological Receptors (KER), other than nature conservation sites, the results of both the desktop studies and field surveys are presented together.

3.1 Nature Conservation Sites

European sites are assessed in the AA Screening and NIS which accompanies the planning application for the project. An updated addendum has been provided based on the proposed alteration (SLR, 2025). Nationally designated sites are discussed in the following sections.

There are no meaningful changes in terms of the designated conservation sites located within 15 km for SACs and 20 km for SPAs of the proposed alteration compared to the permitted development. All Source-Pathway-Receptors (S-P-R) between the proposed alteration and all designated conservation sites are considered the same as detailed in the original EIAR Chapter 6 and 7 (Biodiversity and Ornithology) and the AA Screening and NIS.

3.2 Habitats and Flora

Broadly the habitats within the site of the proposed alteration are similar to those of the permitted development (i.e., mainly improved agricultural grassland (GA1)), Other habitats recorded included hedgerow (WL1) and scrub (WS1), which is consistent with the Biodiversity chapter for the permitted development.

Previously mapped Annex I Orchid-rich grassland [6210*] is present between turbine T18 and the electricity substation, which will be affected by the proposed alteration. This is detailed further below in Section 3.2.1.

There are no further records of Floral Protection Order species, protected bryophytes or important habitats such as ancient woodlands within the NPWS data sources within the study

[16] National Roads Authority (2009) Guidelines for Assessment of Ecological Impacts of National Road Schemes. Revision 2. Dublin: National Roads Authority.

area. No records of threatened, protected or non-native flora were yielded from the data search that were not previously identified for the permitted development.

3.2.1 Annex I Habitats

A review and NPWS mapped Annex I habitat identified Annex I [6210] Orchid-rich grassland present at approximate ITM coordinates 590491 744889. This overlapped partially with the proposed alteration (see Figure 2).

Only a minor area (c. 0.76 ha) of this Annex I habitat was located within the study area (see Figure 2), with approximately 0.001 ha within the footprint of the proposed alteration.

3.3 Fauna

3.3.1 Bats

No trees or structures suitable for roosting bats were located within the study area. Therefore, there will be no impacts to roosting bats above and beyond what was stated in EIAR Chapter 6 for the permitted development; and they have been discounted from further mention in this report.

Commuting and Foraging Bats

Overall, the study area was assessed as being of moderate potential for commuting and foraging bats due to the presence of suitable linear habitats such as hedgerows (WL1) and potential foraging habitat such as grasslands, which bats are likely to reach from nearby roost sites via suitable commuting corridors such as hedgerows.

3.3.2 Other Protected Fauna

No signs of other protected fauna were recorded during the survey. However, given the nature of the study area, it is anticipated that suitable foraging habitat is present for a range of fauna already identified in the previous EIAR Chapters 6 and 7 (Biodiversity and Ornithology), including Irish hare, badgers (although no new setts were recorded), birds (mainly passerine species), and potentially other species such as common lizard, which are also considered in the previous Biodiversity chapter.

4.0 ASSESSMENT OF EFFECTS

4.1 Description of Likely Effects

The proposed alteration includes the omission of the permitted 110kV underground cable from Brideswell to Monksland and the omission of upgrade works to the Athlone 110kV electricity substation. The omission of this permitted infrastructure will have no significant effects on ecological receptors.

Taking the above into account, the likely significant effects of the proposed alteration are described in the following sections.

4.1.1 Effects to Nature Conservation Sites

An addendum to the NIS submitted with the original 2022 planning application has also been prepared. The conclusion of the NIS and addendum to the NIS is that the project (including proposed alteration) will not, beyond reasonable scientific doubt, adversely affect the integrity of any Natura 2000 site either directly or indirectly.

The proposed alteration is sufficiently small that no appreciable differences in effects upon designated conservation sites are similar to those previously identified and suitably mitigated for in the previous NIS.

Overall, the proposed alteration will not cause any effects on European nature conservation sites that were not already identified in the previous NIS.

In addition, the proposed alteration is not likely to have a significant effect on nationally designated conservation sites having regard to the small scale and characteristics of the proposed alteration, absence of pathways for effects and the features for which the sites have been designated.

4.1.2 Effects to Habitats and Flora

The proposed alteration will cause the following habitat loss:

- The permanent removal of 0.001 ha of Annex I habitat Orchid-rich grassland (detailed further below);
- The temporary removal of c.0.25 ha improved agricultural grassland for the grid connection;
- The permanent removal of c.0.004 ha of scrub;
- The permanent removal of c.42 m of hedgerow; and
- The permanent removal of c.0.26 ha improved agricultural grassland for the tracks.
- No rare or protected plant species were recorded within the areas to be affected.

Notwithstanding the loss of Annex I habitat Orchid-rich grassland (which is detailed below), the proposed alteration will not result in significant effects on habitats or flora. There will be no appreciable difference in the effects predicted upon habitats and plants due to the proposed alteration compared to those permitted for the operational and decommissioning phases above and beyond what was stated in EIAR Chapter 6 for the permitted development.

Effects to Annex I Habitat

A 0.76 ha area of Annex I grassland is located within the study area. Of this, only 0.001 ha will require removal to facilitate the construction of the access track. This removal is considered permanent. The remaining area of Annex I habitat will be unaffected by the proposed alteration.

The area of lost Annex I habitat represents the furthest extent of the designated Annex I habitat and the relevé conducted here found it not to support the higher floral species diversity that was recorded elsewhere in the Annex I habitat area during the survey and was hence considered in bad condition.

The proposed alteration has avoided this habitat where it has been possible; thus, minimising its loss. However, any loss of Annex I habitat should be considered as significant at the scale of county importance, similar to the conclusion made in the Biodiversity Chapter for the permitted development in the EIAR Chapter 6 (Biodiversity).

Appropriate mitigation measures have been presented through the provision of a Biodiversity Management and Enhancement Plan (BMEP) (Appendix 6-5 of the EIAR for the permitted development) to compensate for the losses of 2.7 ha of Annex I Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites) [6210] due to the permitted development, through the creation of 9-12 ha of species-rich semi-neutral grassland. The compensation areas represent over three times the total of Annex I habitat to be lost due to the permitted development and will therefore compensate for the very minor quantity to be lost through the proposed alteration.

4.1.3 Effects to Fauna

4.1.3.1 Effects to Birds

The proposed alteration will not result in significant effects on birds as the habitats to be lost generally comprised improved agricultural grassland, which is of generally low value and widespread across the surrounding landscape. As detailed in the EIAR Chapter 7 (Ornithology) for the permitted development, these habitats are not used by SCI birds for nearby SPAs, which were found to prefer the wetter habitat types (e.g., turloughs). The proposed alteration will result in only minor reductions of suitable nesting bird habitat for common passerine species and there will be no appreciable differences in the effects predicted upon birds due to the proposed alteration compared to those permitted for any phase.

4.1.3.2 Effects to Bats

As stated in Section 3.3.1, there will be no impacts to roosting bats because of the proposed alteration.

The proposed alteration will cause an additional loss in commuting and foraging habitat through the removal of improved agricultural grassland, hedgerow, and scrub; resulting in reduced feeding and commuting opportunities. This is consistent with the impacts already detailed in Section 6.7.3.2 of the previous Biodiversity chapter, which also assessed that habitat loss and degradation would result in no significant effects to bats. This report also detailed appropriate mitigation measures, such as the net gain of replanting of 290 m of linear habitats, which will result in an overall net gain of linear habitats following the expected additional losses (c. 42m) from the proposed alteration.

Overall, the proposed alteration will not cause any likely significant effects to bats that were not already identified in the EIAR for the permitted development.

4.1.3.3 Effects to Badgers

No badger setts were identified within the study area and there will be no loss or damage to any existing setts.

The loss of the improved agricultural grassland and hedgerows will cause a temporary loss of foraging habitat. However, the losses will not be significant to badgers given the small-scale nature of the proposed works, and badgers will be able to continue to use the study area and immediate surroundings for foraging purposes.

Overall, the proposed alteration will not cause any likely significant effects to badgers that were not already identified in the previous Biodiversity chapter.

4.1.3.4 Effects to Other Fauna

No significant effects to other fauna are likely as a result of the proposed alteration that were not already identified in the Biodiversity chapter for the permitted development.

4.2 Cumulative Effects

The EIAR for the permitted development found no likely significant cumulative impacts as a result of the permitted development. Notwithstanding the loss of 0.001 ha of Annex I habitat, there will be no likely significant additional effects predicted on flora and fauna as a result of the proposed alteration. Therefore, there are no additional likely significant cumulative effects with any other projects or plans predicted beyond those identified for the permitted development or those identified within Section 6.8 of the EIAR Chapters 6 and 7 (Biodiversity and Ornithology).

In isolation, the proposed alteration will result in the loss of 0.001 ha of Annex I Orchid-rich grassland. However, this impact could become more significant if combined with further losses from other developments, potentially leading to a cumulative effect at a national scale. However, this loss is appropriately compensated for through the creation of 9-12 ha of species-rich semi-neutral grassland (as detailed in the BMEP – Appendix 6-5 of the EIAR for the permitted development). Therefore, there will be no net loss of this habitat in the long-term and no significant cumulative impacts are likely as a result.

5.0 CHANGES TO MITIGATION MEASURES

Given that significant effects are not assessed as likely to occur, or are already appropriately mitigated / compensated for, it is assessed that with the implementation of all previously committed-to environmental controls, mitigation measures and design proposals (e.g. the compensation for Annex I habitats), no additional mitigation measures are required in respect of the proposed alteration.

All other mitigation measures will be implemented in full as described in Chapter 6 and 7 of the EIAR.

6.0 CONCLUSION

The likely effects of the proposed alteration on biodiversity have been assessed regarding the findings of the EIAR for the permitted Seven Hills Wind Farm. The proposed alteration to the permitted development is not likely to significantly affect any ecological receptors beyond those already assessed within the EIAR for the permitted development other than an additional loss of 0.001 ha of Annex I Orchid-rich grassland.

The only impacts with the potential to change because of the proposed alteration are additional losses in improved agricultural grassland, scrub, hedgerow, and Annex I habitat Orchid-rich grassland. No additional impacts to fauna are expected.

All previously committed-to environmental controls, mitigation measures and design proposals will be implemented and no additional mitigation measures are required in respect of the proposed alteration.

Therefore, with the previously committed mitigation measures in place, no changes to the assessment of residual effects on biodiversity are predicted because of the proposed alteration.

Separately, an addendum to the NIS has fully assessed the potential impacts of the proposed alteration on European Sites. The conclusion of the NIS and addendum to the NIS is that *"…the proposed alteration, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site and there is no reasonable scientific doubt in relation to this conclusion*".

FIGURES

585000 587500 590000 592500

747500

745000

Island
Lough Croan
Inchnagower
Inchnagreeve
R357
L2015
L2016
L2013
L2013
L2017
Curraghboy
L2017
R362
Dooloughan Lough
Fair Hill
Cuilleenirwan Lough
L2016
L2015
Dysart
R363
R363
L2016
R363
R363
R357
L2028
L2028
R357
Feacle Lough
Athlone Mo
Flying Clu
0 1 2
Kilometres

N

LEGEND

Site Boundary

Lough Ree
Irelan
Athlone
Ballinasloe

SLR

SEVEN HILLS WIND FARM

EIAR BIODIVERSITY ADDENDUM

SITE LOCATION

FIGURE 1

Scale 1:30,000 @ A3

Date DECEMBER 2025

501.065999.00001.0001.0 Site Location Plan

585000 587500 590000 592500

747500

745000

R357 R357 R357 R357 R363 R363 R363 R362

Figure 2B

N

LEGEND

Site Boundary

Proposed Track

Proposed Cable Route

Survey Area

Area Not Surveyed

Annex I Habitat [6280] Orchid-rich Grassland

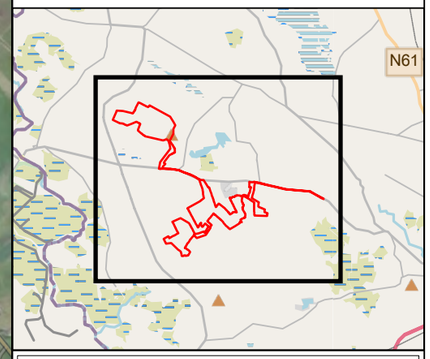
Fossit Habitat (Linear)

WL1 - Hedgerow

Fossit Habitats (Areas)

GA1 - Improved Agricultural Grassland

WS1 - Scrub



0 1 2

Kilometres

SLR

SEVEN HILLS WIND FARM

EIAR BIODIVERSITY ADDENDUM

HABITAT SURVEY RESULTS

FIGURE 2A

Scale 1:30,000 @ A3

Date DECEMBER 2025

501.065999.00001.0002.0 Habitat Plan

Aerial Imagery (2024):
Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Map data © OpenStreetMap contributors, Microsoft, Facebook, Google, Esri Community Maps contributors, Map layer by Esri

590500

591000

745000

N

GA1

WL1

WS1

GA1

WL1

GA1

WL1

GA1

WL1

GA1

0

200

400

Metres

LEGEND

Site Boundary

Proposed Track

Proposed Cable Route

Survey Area

Area Not Surveyed

Annex I Habitat [6280] Orchid-rich Grassland

Fossit Habitat (Linear)

WL1 - Hedgerow

Fossit Habitats (Areas)

GA1 - Improved Agricultural Grassland

WS1 - Scrub

N61

SLR

SEVEN HILLS WIND FARM

EIAR BIODIVERSITY ADDENDUM

HABITAT SURVEY RESULTS

FIGURE 2B

Scale 1:3,000 @ A3

Date DECEMBER 2025

501.065999.00001.0002.0 Habitat Plan

Aerial Imagery (2024):
Microsoft, Vantor, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Map data © OpenStreetMap contributors, Microsoft, Facebook, Google, Esri Community Maps contributors, Map layer by Esri

570000 580000 590000 600000 610000

760000 750000 740000

N63 N60 Roscommon N61 N55 Ballymahon N62 N6 M6

Ballinturly Turlough pNHA
Ballinturly Turlough SAC
Aughrim (Aghrane) Bog SAC
Aughrim Bog NHA
Aughrane Woods
Lisduff Turlough SAC
Lisduff Turlough pNHA
Kilmore Bog NHA
Ballygar Bog NHA
Four Roads Turlough SAC
Four Roads Turlough pNHA
Lough Funshinagh pNHA
Lough Funshinagh SAC
Lough Croan Turlough SPA
Four Roads Turlough SPA
Ballygar (Aghrane) Bog SAC
River Suck Callows SPA
Lough Croan Turlough NHA
Lough Croan Turlough SAC
Castle Ffrench East Bog NHA
Mountbellew
Castle Ffrench West Bog NHA
Suck River Callows NHA
Feacle Turlough pNHA
Ballynamona Bog and Corkip Lough SAC
Killeglan Grassland SAC
Annaghbeg Bog NHA
Castlesampson Esker SAC
Castlesampson Esker pNHA
Crit Island West NHA
Killure Bog NHA
Cranberry Lough pNHA
Woodlawn Woods
Ballinasloe
Ballinasloe Esker pNHA
Clorhane Wood pNHA
Culliaghmore
Glenloughaun Esker SAC
Cloonascragh Fen And Black Wood pNHA
Middle Shannon Callows SPA
Lough Slawn pNHA
Lough Ree SAC
Lough Ree pNHA
Lough Ree SPA
Lough Ree
Ireland
Waterstown Lake pNHA
Carn Park Bog pNHA
River Shannon Callows pNHA
Athlone
Crosswood Bog SAC
Carn Park Bog SAC
Carrickynaghtan Bog NHA
Crosswood Bog pNHA
Pilgrim's Road Esker SAC
River Shannon Callows SAC
Mongan Bog SPA
Mongan Bog SAC
Mongan Bog pNHA
Mongan Bog
River Shannon Callows pNHA
Pilgrim's Road Esker pNHA
Fin Lough (Offaly) pNHA
Fin Lough (Offaly) SAC
Lough Nanag Esker pNHA
Galway
Limerick
Kilkenny
Ireland
unty Galway

0 5 10
Kilometres

N

LEGEND

- Site Boundary
- Proposed Cable Route Alteration
- Proposed Cable Route Alteration 20 km Buffer
- RAMSAR Wetland Sites
- Nature Reserves
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Natural Heritage Area (NHA)
- Proposed Natural Heritage Area (pNHA)

Note:
Labels only shown for sites intersecting 20 km Buffer

SLR

SEVEN HILLS WIND FARM
EIAR BIODIVERSITY ADDENDUM
DESIGNATED SITES
FIGURE 3

Scale 1:160,000 @ A3
Date DECEMBER 2025

501.065999.00001.0004.0 Designated Sites

570000 580000 590000 600000 610000

760000 750000 740000

501.065999.00001.0006.0 Hydrological Connectivity

N

Roscommon
Ballinturly Turlough pNHA
Ballinturly Turlough SAC
Aughrim (Aghrane) Bog SAC
Aughrim Bog NHA
Aughrane Woods
Lisduff Turlough SAC
Lisduff Turlough pNHA
Kilmore Bog NHA
Ballygar Bog NHA
Ballygar (Aghrane) Bog SAC
Four Roads Turlough SAC
Four Roads Turlough pNHA
Lough Funshinagh pNHA
Lough Funshinagh SAC
Lough Croan Turlough SPA
Four Roads Turlough SPA
River Suck Callows SPA
Lough Croan Turlough NHA
Lough Croan Turlough SAC
Mountbellew
Castle Ffrench East Bog NHA
Castle Ffrench West Bog NHA
Suck River Callows NHA
Feacle Turlough pNHA
Ballynamona Bog and Corkip Lough SAC
Killeglan Grassland SAC
Annaghbeg Bog NHA
Castlesampson Esker SAC
Castlesampson Esker pNHA
Crit Island West NHA
Killure Bog NHA
Cranberry Lough pNHA
Mongan Bog SPA
Mongan Bog SAC
River Shannon Callows SAC
River Shannon Callows pNHA
Pilgrim's Road Esker pNHA
Pilgrim's Road Esker SAC
Mongan Bog pNHA
Mongan Bog
Clorhane Wood pNHA
Fin Lough (Offaly) pNHA
Fin Lough (Offaly) SAC
Lough Nanag Esker pNHA
Glenloughaun Esker SAC
Cloonascragh Fen And Black Wood pNHA
Middle Shannon Callows SPA
Ballinasloe
Ballinasloe Esker pNHA
Woodlawn Woods
Culliaghmore
Lough Slawn pNHA
Lough Ree SAC
Lough Ree pNHA
Lough Ree SPA
Lough Ree
Ballymahon
Waterstown Lake pNHA
Carn Park Bog pNHA
Carn Park Bog SAC
River Shannon Callows pNHA
Crosswood Bog SAC
Crosswood Bog pNHA
Carrickynaghtan Bog NHA
Athlone
Pilgrim's Road Esker SAC
Mongan Bog
Ireland
unty Galway
N63 N60 N61 N55 N6 N62 M6

0 5 10
Kilometres

LEGEND

- Site Boundary
- Proposed Cable Route Alteration
- Proposed Cable Route Alteration 20 km Buffer
- Nature Reserves
- RAMSAR Wetland Sites
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Natural Heritage Area (NHA)
- Proposed Natural Heritage Area (pNHA)
- Watercourse (OSM)
- Potential Hydrological Connection

Note:
Labels only shown for sites intersecting 20 km Buffer

Ireland
Galway
Limerick
Kilkenny

SLR

SEVEN HILLS WIND FARM

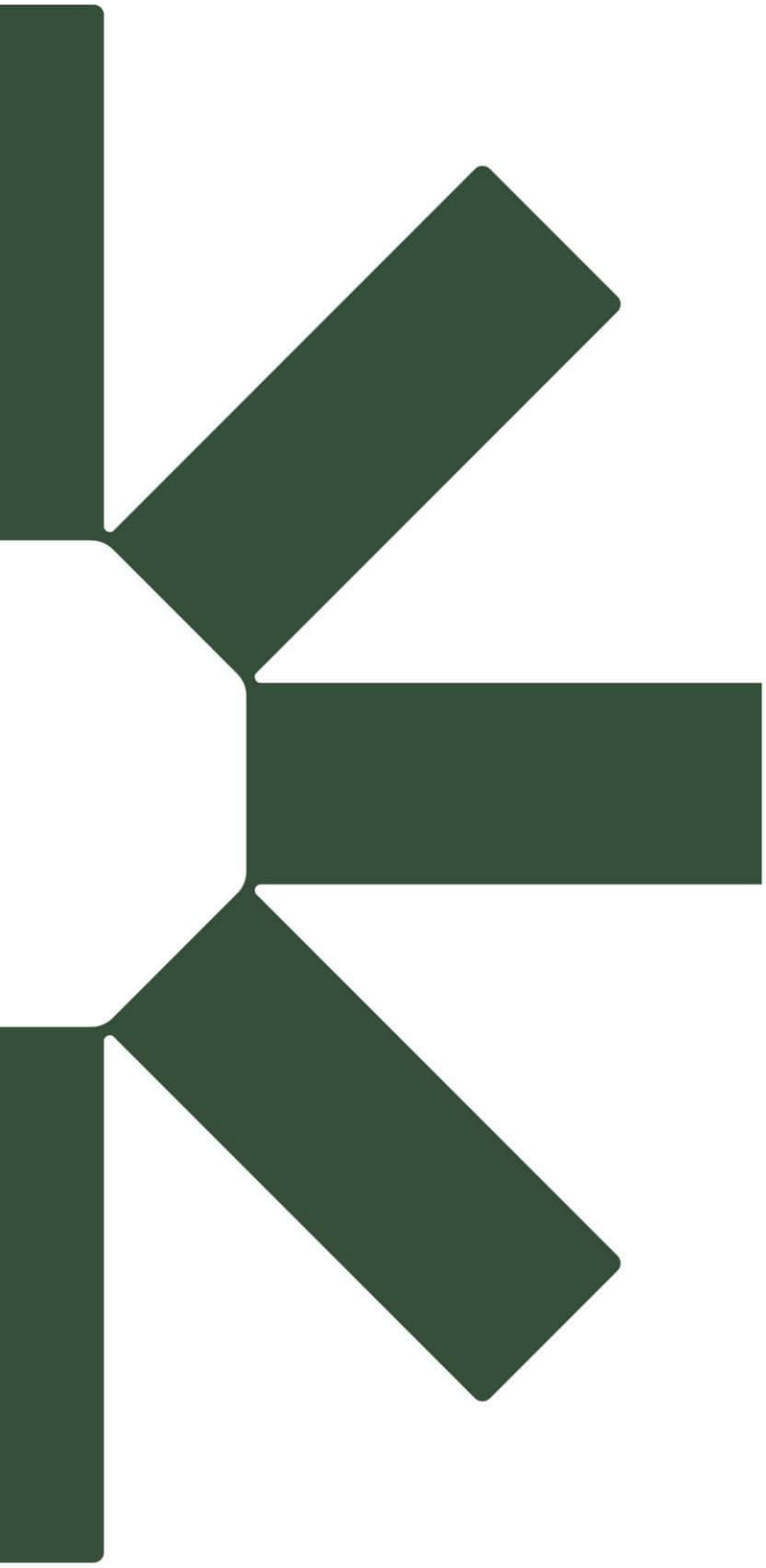
EIAR BIODIVERSITY ADDENDUM

POTENTIAL HYDROLOGICAL CONNECTIVITY

FIGURE 4

Scale 1:160,000 @ A3

Date DECEMBER 2025



Making Sustainability Happen

ANNEX 2 – ADDENDUM LAND, SOIL, GEOLOGY AND WATER ASSESSMENT

HYDRO ENVIRONMENTAL SERVICES

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Co.Waterford
Ireland

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fax: +353 (0)58 44244
email: info@hydroenvironmental.ie
web: www.hydroenvironmental.ie

Date: 12th December 2025
Our Ref: P1500-6-0001

Galetech Energy Services
Clondargan,
Stradone,
Co. Cavan, Ireland,
H12 NV06

F.A.O. Mr Simon Carleton

Dear Mr. Carleton

Re: Assessment of Proposed Alteration to the Permitted Seven Hills Wind Farm, Co. Roscommon

---

1 INTRODUCTION

Hydro-Environmental Services (HES) were requested by Galetech Energy Services (GES) to assess the proposed alteration to the permitted Seven Hills Wind Farm with regard to both the Land, Soils and Geology environment and the Hydrological and Hydrogeological environment (*i.e.* the Water environment).

HES prepared the Land, Soils/Geology Chapter (Chapter 8) and the Water Chapter (Chapter 9) for the permitted Seven Hills Wind Farm Environmental Impact Assessment Report (EIAR). This letter report deals with both the Land, Soils/Geology and Water aspects of the assessment of the proposed alteration. The assessment refers to and relies upon the extensive database of geological and hydrogeological information which was accrued for the original EIAR and has been supplemented by a further site walkover of the location of the proposed alteration.

2 STATEMENT OF EXPERIENCE

Hydro-Environmental Services ("HES") are a specialist geological, hydrological, hydrogeological and environmental practice which delivers a range of water and environmental management consultancy services to the private and public sectors across Ireland and Northern Ireland. HES was established in 2005, and our office is located in Dungarvan, County Waterford.

Our core area of expertise and experience is hydrology and hydrogeology, including flooding assessment and surface water modelling. We routinely work on surface water monitoring and modelling, and prepare flood risk assessment reports.

Michael Gill is an Environmental Engineer with 23 years' environmental consultancy experience in Ireland. Michael has completed numerous hydrological and hydrogeological assessments for various developments across Ireland. Michael has significant experience in surface water drainage issues, SUDs design, and flood risk assessment. Michael worked on the original EIAR for the permitted Seven Hills Wind Farm.

Conor McGettigan (BSc, MSc) is an Environmental Geoscientist with over 5 years' experience in the environmental sector in Ireland. Conor holds an M.Sc. in Applied Environmental Science (2020) and a B.Sc. in Geology (2016) from University College Dublin. Conor routinely completes land, soils and geology and hydrological and hydrogeological assessments for proposed wind

farm developments and their associated grid connections. Conor worked on the original EIAR for the permitted Seven Hills Wind Farm.

3 DESCRIPTION OF PROPOSED ALTERATIONS

In summary, the proposed alterations comprise of the following:

- The omission of approximately 9km of 110kV underground cabling and associated ancillary infrastructure between Brideswell and the Athlone 110kV electricity substation at Monksland;
- The omission of all permitted upgrades to the Athlone 110kV electricity substation;
- The re-routing of wind farm cabling between the wind turbines and the on-site 110kV electricity substation; and,
- The construction of approximately 760m of wind farm access track and installation of approximately 760m of wind farm cabling between turbine T18 and the on-site electricity substation.

As the proposed omission of underground cabling, omission of electrical equipment within the electricity substation and the re-routing of wind farm cabling will have no effect on the geological, hydrological or hydrogeological environments; this assessment focuses on the proposed installation of approximately 760m of wind farm cabling and construction of an accompanying access track.

4 LAND, SOILS AND GEOLOGY BASELINE

The baseline setting of the location of the proposed alteration with regards to the Land, Soils and Geological environment was described in Chapter 8 of the submitted EIAR. The location of the proposed alteration is located within the southern cluster of the wind farm, between T18 and the onsite substation.

The relevant sections of the submitted EIAR, along with the pertinent site-specific data, are summarised below.

Land and Landuse
EIAR Section 8.3.2.2 states that:

> *"Landuse within the Southern Cluster of the proposed Wind Farm site varies between agricultural grassland areas under permanent grazing and rough scrub, which is often strewn with boulders, the majority of the site situated within the latter. The eastern area of the Southern Cluster, near T17-T20 is primarily agricultural land."*

The proposed alteration is located in the eastern section of the southern cluster, in the vicinity of T18, and is therefore located in agricultural land. HES completed a site walkover survey of the relevant location and further details are provided in Section 6 below.

Soils and Subsoils
EIAR Section 8.3.3 states that:

> *"Published soils maps (www.epa.ie) were queried for data on mapped soils in the Southern Cluster. Deep well drained basic mineral soil (BminDW) is the dominant soil type at this portion of the site and in the general local area. There are some areas of poorly drained basic mineral soils, particularly on higher ground".*

A review of the Teagasc soils map confirms that the location of the alteration is mapped to be overall by mainly basic deep well drained mineral soils (BminDW) and basic deep poorly drained mineral soils (BminPD).

With regards to the GSI mapped subsoils in the Southern Cluster Section 8.3.3 states that:

> "*The majority of the site is mapped as Tills derived from Limestone. There are eskers mapped east and southeast of the site near the townlands of Boleyduff and Cloonacaltry.*"

A review of the published GSI subsoils map confirms this is true for the location of the proposed alteration.

The EIAR also presents the results of multiple phases of site investigations completed at the wind farm site between 2010 and 2021. In summary, the site investigations completed within the southern cluster comprised the drilling of 32 no. boreholes, the excavation of 61 no. trial pits, the completion of geophysical surveys and laboratory testing of recovered soil/subsoils samples (PSD and permeability analysis). Section 8.3.3.2 of the EIAR states that the site investigation data across the southern cluster is consistent and that:

> "*the subsoils consist of sandy CLAY, clayey gravelly SAND and sandy clayey GRAVEL, with a depth of overburden between 1.3 - 30m where the full profile was described (i.e. at boreholes)*."

For the purposes of this assessment, the results of the site investigations completed locally to the proposed alteration are described in detail. These site investigations consisted of:

- The drilling of 2 no. boreholes at the location of T18 (T19RC01 and T19RC02) by IGSL in January 2021;
- The excavation of 2 no. trial pits (T19 TP01 and T19 TP02) at T18 by IGSL in December 2020;
- The completion of 2 no. trial pits at the substation (Substation TP01 and Substation TP02) by IGSL in December 2020;
- The completion of 3 no. trial pits in the vicinity of the substation (TPS D01, TPS D02 and TPS D03) by HES in December 2021;
- The completion of 2 no. dynamic probes (DP59 and DP60) by IGSL in 2021/2021; and,
- Geophysical investigations at T18 as part of the surveys undertaken by Apex Geophysics between November 2020 and January 2021.

The results of the intrusive site investigations are summarised in Table A below. The site investigation locations are shown in Figure A.

The 7 no. trial pits excavated in the local area extended to a maximum depth of 3.0mbgl (metres below ground level). These excavations did not encounter any bedrock with several excavations being unable to proceed deeper due to the presence of large boulders. Borehole drilling at T18 revealed the depth to bedrock to range from 4.1-4.5mbgl. The soils encountered broadly consisted of a brown, sandy, gravelly CLAY topsoil which contained pebbles, cobbles and occasionally boulders. The topsoil was found to be typically underlain by brown, clayey, very sandy GRAVEL with cobbles and boulders of limestone. The results of the intrusive site investigations were also consistent with the geophysical profile at T18.

Table A: Summary Site Investigation Data

Site Investigation Location ID	Depth Interval (mbgl)	Summary Description
TPS-D01	0-0.42	Brown, sandy, clayey TOPSOIL with pebbles
	0.42-1.4	Grey sandy, gravelly CLAY with cobbles
	1.4-2.0	Grey, slightly clayey, very sandy, GRAVELS of limestone with large boulders
TPS-D02	0-0.2	Brown, sandy TOPSOIL with cobbles
	0.2-1.8	Grey, very sandy, gravelly SILT/CLAY with cobbles and boulders
TPS-D03	0-0.2	Brown, sandy, gravelly, organic clayey TOPSOIL
	0.2-1.8	Brownish-grey, very sandy, clayey GRAVEL with cobbles and boulders
T19 TP01	0-0.2	Brown, sandy, gravelly, clayey TOPSOIL with boulders
	0.2-3.0	Light brown-creamy, clayey, sandy GRAVEL with cobbles and boulders
T19 TP02	0-0.2	Brown, sandy, gravelly, clayey TOPSOIL with cobbles and boulders
	0.2-2.5	Brown, clayey, sandy GRAVEL with cobbles and boulders
Substation TP01	0-0.30	Brown, sandy, gravelly, clayey TOPSOIL
	0.3-2.5	Greyish-brown, clayey, sandy GRAVEL with cobbles and boulders
Substation TP02	0-0.4	Brown, sandy, gravelly, clayey TOPSOIL
	0.4-2.7	Brownish-grey, clayey, sandy GRAVEL with cobbles and boulders
T19RC01	0-4.5	Overburden: No recovery, returns of sandy GRAVEL and gravelly COBBLES.
	4.5-6.7	Bedrock
T19RC02	0-4.1	Overburden: No recovery, returns of sandy GRAVEL and gravelly COBBLES.
	4.1-6.4	Bedrock

Bedrock Geology
EIAR Section 8.3.4.2 states that:

> "*The underlying bedrock at the Southern Cluster is also mapped by the GSI as Visean Limestones (Undifferentiated). The GSI 1:100,000 bedrock map does not record the presence of bedrock outcrop near the Southern Cluster turbine locations. There are no mapped faults in the area.*"

Extensive borehole drilling was completed across multiple phases of site investigations to verify the nature of the bedrock underlying the southern cluster.

Regarding the boreholes drilled by IGSL:

> "*the bedrock is described as strong to very strong, dark blueish grey, fine to medium grained LIMESTONE. Where apertures are found in the rock they are described as tight to locally open and locally clay/gravel filler. No karst features were note during the drilling.*"

In summary, Section 8.3.4.2 concludes that:

> "*In total 394.6m of borehole drilling has been completed within the Southern Cluster (112.4m during the 2020 HES supervised drilling, 113.1 during the 2020 IGSL*

drilling and 60.2m during the previous site investigation work completed in 2015). Bedrock is identified at an average depth of 7.32mbgl and no obvious karst features have been logged throughout the total depth of drilling. The bedrock at the Southern Cluster does appear to have more weathered sections of rock and clay infill at depth, however none of these zones appear to be characteristic of a karst system and none of these zones produced any substantial groundwater yields. In total, 234.45m of the drilling was in overburden (59.4%) with 68.75% of the boreholes encountering an overburden thickness in excess of 4m. The borehole drilling depths and the geographical spread of the borehole locations across the Southern Cluster provides confidence in stating that the Limestone bedrock is overlain by a substantial thickness of overburden and the bedrock is typically a strong, dark grey bioclastic Limestone with weathered zones and intermittent clay infilled fractures, similar to the Northern Cluster."

Geological Heritage & Designated Sites
EIAR Section 8.3.6 states that:

> *"The Killeglan Karst Landscape (RO015) is designated as a geological heritage site. The Southern Cluster overlaps with this geological heritage site."*

However, T18, the onsite substation and the location of the proposed alteration does not overlap with this geological heritage site. This geological heritage site is located c. 550m to the south of T18 at its closest point.

Geohazards
In relation to slope stability, EIAR Section 8.3.8.1 states that:

> *"The presence of dense glacial subsoil deposits, with low slope angles across the Northern and Southern Clusters means that slope stability is not an issue within the proposed Wind Farm site".*

Furthermore, the GSI mapped karst features are discussed in Section 8.3.8.2, whereby:

> *"There are ~10 karst features (dolines and turloughs) mapped near the Southern Cluster of the Wind farm. They are all situated along the northern side of the cluster and again are mostly on the lower ground".*

There are no karst features mapped in the area of the proposed alteration.

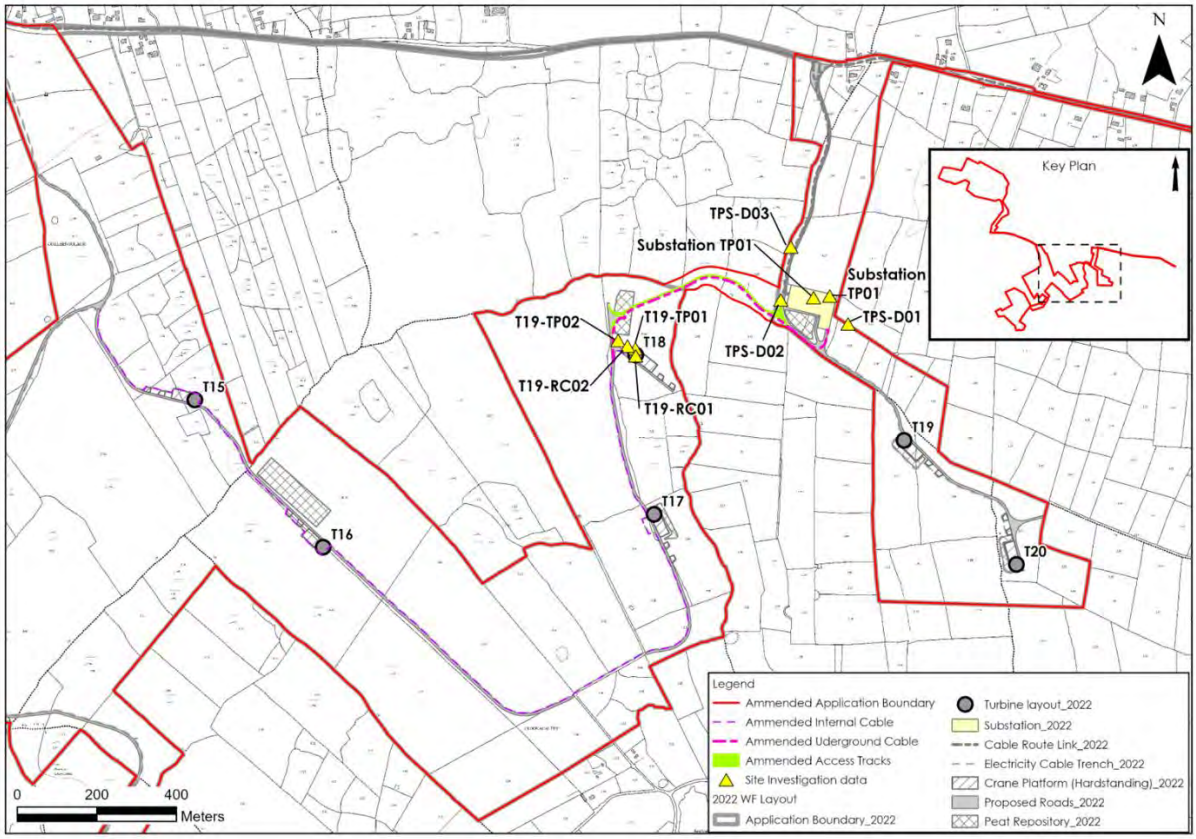

Figure A: Site Investigation Locations

5 HYDROLOGY AND HYDROGEOLOGY BASELINE

The baseline setting of the location of the proposed alteration with regards to the Hydrological and Hydrogeological environment was described in Chapter 9 of the EIAR.

The relevant sections of the EIAR, along with the pertinent site-specific data, are summarised below.

Regional and Local Hydrology

Section 9.3.3 of the EIAR states that:

> *"the proposed Wind Farm site is located primarily within the Upper Shannon (26D) catchment, with a small section to the southeast of the Wind Farm site within the Upper Shannon (26G) catchment, all within Hydrometric Area 26 (Upper Shannon) of the Irish River Basin District.*
>
> *On a local scale, the proposed Wind Farm site (Northern and Southern Clusters) is broadly contained within the River Suck sub-catchment (Suck_SC_090), with a small section of the Southern Cluster (T19 & T20) contained within the Cross River sub-catchment (Shannon[Upper]_SC_100)."*

The proposed alteration crosses the boundary between 2 no. regional surface water catchments. The west of the proposed alteration, in the vicinity of T18, is mapped in the Upper Shannon (26D) catchment, the Suck_SC_090 sub-catchment and the Killeglan_010 river sub-basin. Meanwhile, the eastern section, in the vicinity of the substation, is mapped in the Upper Shannon (26G) catchment, the Shannon[Upper]_SC_100 sub-catchment and the Cross (Roscommon)_020 river sub-basin. However, the local area is distinctively devoid of streams and rivers. The closest mapped surface water feature is the Ballyglass Stream, a tributary of the Suck River, located ~1.9km to the northwest.

Site Drainage
Section 9.3.4 of the EIAR states that:

> "*There is a distinct lack of local drainage (field drains, ditches, first-order streams etc) within the areas of the Northern and Southern Clusters".*

and

> "*The drainage density within the Wind Farm site, and across the general area between Lough Ree and the River Suck is low, which implies that the majority of effective rainfall is infiltrating to the groundwater system, rather than creating runoff which would lead to a larger number of mapped streams/rivers."*

Flood Risk
The risk of surface water and groundwater flooding was investigated at the wind farm site including in the area of the proposed amended cable route. A Flood Risk Assessment was attached to the EIAR as Appendix 9-1 and concluded that:

> "*the proposed Site, all key infrastructure including turbines and the proposed on-site substation and grid route are located within a low-risk area (Flood Zone C), and as such is appropriate from the flood risk perspective.*"

A review of the OPW flood databases, available on www.floodinfo.ie, confirmed that the proposed alteration is located in Flood Zone C. The closest mapped flood zones relate to the GSI's Maximum Historical Groundwater Flood Map which record flood zones ~650m to the southwest.

Surface Water Quality
Biological Q-monitoring data was presented in Section 9.3.6 of the EIAR. New EPA monitoring has been completed in the intervening period and these results are discussed herein.

There are no recent EPA Biological Q-rating data available for the Ballyglass Stream. The closest downstream recent Biological Q-rating on the Suck River is located at Bellagill Bridge (EPA Station Code: RS26S071200). The Suck River achieved a Q3-4 rating (Moderate Q-status) at this location in 2024. This station is located ~11.5km to the southwest of the proposed alteration.

Meanwhile, within the Cross (Roscommon)_020 WFD river sub-basin, the closest downstream EPA monitoring station for which recent data is available is located at a bridge at Burnbrook (EPA Station Code: RS26C100200, located 8.3km to the southeast of the proposed alteration). The Cross River achieved a Q4 rating (i.e. Good Q-status) at this location in 2023.

Hydrogeology
Section 9.3.7.1 of the EIAR states that:

> "*the GSI has classified that Visean Limestones as a Regionally Important Aquifer – Karstified (conduit).*"

The western section of the proposed alteration, in the vicinity of T18, is underlain by the Suck Groundwater Body (GWB) whilst the eastern section, in the vicinity of the substation, is underlain by the Funshinagh GWB.

Importantly the EIAR highlights that the GSI bedrock mapping is:

> "*completed at a broad regional scale and should be considered to be indicative of the bedrock type. However, it is superseded by the collection of site investigation data which is site-specific and completed at a much finer scale, for the purposes of the Proposed Development".*

Based on multiple phases of site investigations, Section 9.3.7.3 states that:

> *"The general geology of the Southern Cluster includes a limited depth (1.8-3.7m) of overburden which generally comprises brownish grey sandy gravel and gravelly sand, with minor amounts of silt and clay. Occasional Limestone boulders were also encountered. The bedrock below this overburden comprises generally Moderately Strong to Strong grey Limestone, which is occasionally soft and fractured/weathered in discrete intervals, but overall is considered to be competent bedrock with no observed significant below ground karst type features."*

Based on the site investigations completed in the area of the proposed alteration, the bedrock aquifer is protected by a thick layer of overburden, and the bedrock itself is largely composed of strong limestone and has not been subject to widespread karstification.

Karst Features
Section 9.3.7.4 states that:

> *"There are ~10 karst features (dolines and turloughs) mapped near the Southern Cluster of the Wind Farm site. They are all situated along the northern side of the cluster and again are generally on the lower ground."*

and:

> *"The locations of the mapped karst features align broadly with the change in topography, with the karst depressions and turloughs mapped within the low-lying ground. There are no mapped karst features on the elevated hills surrounding Dysart, which is in agreement with the site investigation data which indicates that the bedrock is medium hard to hard, medium grey Limestone which is generally competent and devoid of water bearing strata."*

Furthermore, there are no mapped karst features in the area of the proposed alteration and the site investigation completed in this general area did not encounter any karst features.

A number of turloughs are mapped locally to Dysart and the surrounding townlands. These are detailed in Section 9.3.7.6 of the EIAR, along with the water level monitoring completed by HES as part of the characterisation of the baseline environment. All turloughs are remote from the proposed alteration. The closest turlough is Lough Feacle, located ~1km to the south of T18. The winter water level recorded at Lough Feacle was 62.2mOD which is significantly below ground elevations in the area of the proposed alteration which range between ~93 and 105mOD.

Group Water Schemes and Public Water Schemes
The Killeglan PWS is located ~4.5km to the southwest of the proposed alteration. Section 9.3.7.7 of the EIAR states that:

> *"The Killeglan PWS exists in the townland of Rockland, where several springs are mapped by the GSI and on historic 6" mapping. The Zone of Contribution (ZoC) to this spring has been mapped, which encompasses a small area of the Proposed Development Site, near the southern edge of Cam Hill, near the proposed turbine T17. Turbine T18 is not mapped within the ZoC, however, the available water level data cannot discount the potential for some groundwater flow from the T18 area occurring in a southerly direction towards Feacle Turlough."*

The EIAR also presented site investigation data from Cam Quarry, near the northern extent of the Killeglan Spring ZoC. The site investigation data (Roadstone borehole drilling logs) does not indicate the presence of any water bearing karst/conduit system. The proposed alteration does not encroach upon the delineated ZoC.

Groundwater Wells – Domestic/Public/Quarry
Section 9.3.7.8.1 of the EIAR presents the results of a comprehensive groundwater monitoring programme completed at the wind farm site by HES between 2020 and 2021. The monitoring network included both domestic and public wells in the local area and wells in the nearby Roadstone Cam quarry. In total 20 no. wells were monitored by HES.

The closest monitored wells to the proposed alteration are W9 and W10. W9 is located ~480m to the north, with W10 located ~370m to the south of T18.

No domestic or agricultural wells are located in the immediate vicinity of the proposed alteration.

Due to the shallow nature of the proposed cabling trench (c. 1m deep), it is assessed that no significant groundwater dewatering will be required.

Groundwater Levels and Flow Directions
As detailed in Section 9.3.7.10 of the EIAR, groundwater level data has been obtained from turloughs, site investigation boreholes and domestic wells. The comprehensive dataset was used to form a conceptual model of groundwater gradients and flow directions. The monitoring data shows that:

> *"Winter groundwater levels in wells within the Southern Cluster range between 48.5 – 71.95 m OD, with the highest water levels near the highest elevated ground (Cam Hill). The lowest groundwater level recorded in a groundwater well was near Feacle Turlough. Water levels in the turloughs range between 51.5 – 62.2 m OD. Water levels in the Ballyglass turlough, towards the northwest of the Southern Cluster, are lowest (51.5 m OD), while water levels in Feacle Turlough to the southeast and on the far side of the Southern cluster high ground are highest (62.2 m OD)."*

EIAR Figure 9-18 and Figure 9-19 show the groundwater contour map for both the winter and summer conditions, with groundwater in the vicinity of the proposed alteration flowing to the south (summer) and south/southeast (winter) towards Lough Feacle and Corkip Lough.

Groundwater Vulnerability
As stated in Section 9.3.8 of the EIAR:

> *"The mapped vulnerability rating of the aquifer within the Proposed Development site ranges between High to Extreme based on regionally assumed depths of subsoil."*

and

> *"Based on the site investigation data, the groundwater vulnerability can be said to be Moderate to High (5-10m of clayey sandy subsoil)."*

WFD Status
The Funshinagh and Suck South GWBs which underlie the proposed alteration both achieved "Good" status in the latest WFD cycle (2016-2021). These GWBs are deemed to be "not at risk" and no significant pressures have been identified to be impacting on these GWBs.

In terms of surface waterbodies (SWBs), the Ballyglass_010 SWB achieved "Good" status in the latest WFD and is "not at risk". Meanwhile, the Cross (Roscommon)_020 SWB achieved "Moderate" status and is "at risk". This SWB is deemed to be under significant pressure from hydromorphological issues.

Designated Sites

The closest designated site to the proposed alteration is Feacle Turlough pNHA. This pNHA is located ~1km to the south and stands at an elevation of ~67mOD.

Ballynamona Bog and Corkip Lough SAC is located ~1.6km to the southeast. This SAC stands at an elevation of ~55-58 mOD.

The River Suck Callows SPA and NHA exist along the banks of the River Suck and are hydrogeologically connected to the area of the proposed alteration via groundwater flow.

6 Additional Investigations/ Survey Findings

A site walkover survey, visual inspection and drainage mapping was completed by HES in the area of the proposed alteration on 15th October 2025.

During the site walkover surveys, particular attention was paid to the potential presence of karst features. However, no karst features were identified during the comprehensive walkover surveys. The ground was noted to be dry and firm. No turloughs or wet ground were recorded in the local area. The topography of the site is undulating and has a distinct lack of surface water features. The majority of the area consists of reclaimed agricultural pastures. Meanwhile, the northwest of the area comprises rough ground with scrubland and boulders protruding at the surface. The proposed alteration avoids this area.

The results from the walkover surveys correspond with the previous understanding of this area where the limestone bedrock is overlain by thick deposits of glacial till which provides protection to the bedrock aquifer.

Due to the shallow nature of the proposed alteration (1m deep trench) and associated access track, there will be no excavation of bedrock and all works will be completed well above the local groundwater table.

7 Conceptual Hydrogeological Model

A Conceptual Site Model (CSM) has been created based on available desk study data and all the available site data collected through the intrusive site investigations (2010-2021), the hydrogeological fieldwork and water level monitoring (2020-2021) and the site walkover surveys (2025).

The CSM is summarised as follows:

- The site of the proposed alteration is predominantly comprised of undulating agricultural pastures with mature hedgerows and stone walls, and some rough scrubland with boulders in the northwest;
- The site of the proposed alteration is devoid of surface water features and the local hydrogeological regime is characterised by high rates of groundwater recharge and very low rates of surface water runoff;
- No karst features were recorded during the walkover surveys of the site or during the previous site investigations;
- The site of the proposed alteration is underlain by relatively thick deposits of glacial till (~4m) which provides protection to the underlying aquifer;
- Site investigations have shown that the bedrock in the local area is comprised of Moderately Strong to Strong Limestone, with no evidence of karstification or significant groundwater flowpaths; and,
- Groundwater level monitoring has shown that groundwater at the site flows to the south and southeast towards Lough Feacle and Corkip Lough.

8 EFFECTS OF THE PROPOSED ALTERATIONS ON LAND, SOILS AND GEOLOGY

Land, soils and geology were assessed in the Seven Hills Wind Farm EIAR under the following headings for the construction, operational and decommissioning phases:

- Excavations
- Erosion
- Contamination (oils and fuels)
- Land and Landuse Effects
- Geological Heritage sites

Geological heritage sites have been screened out of the assessment for the proposed alteration as the study completed above shows that there no potential for effects.

The proposed alteration is assessed below in terms of land, soils and geology.

Excavations (Construction Phase)
The excavation and relocation of material is an inevitable part of the proposed works. However, it is considered that the residual effects will remain as 'slight' (as assessed in the EIAR) for the following reasons:

- The proposed cabling route is relatively short (c. 760m in length);
- The soils, subsoils and bedrock are classified as 'low to medium' importance;
- A minimal volume of soil and subsoil, in comparison to the total resource present on the site, will be removed to allow for the construction of the proposed alteration;
- The soil and subsoil which will be removed during the construction phase will be localised to the footprint of the proposed infrastructure only; and,
- No infrastructure will be constructed within or near any designated sites for the protection of ecological features or geological heritage.

Contamination (Construction Phase)
The contamination of soils and subsoils presents a direct effect on the geology of the site. Accidental spillage during refuelling of construction plant with petroleum hydrocarbons is a pollution risk.

The overall residual effect will remain as 'imperceptible' considering the relatively low volumes of fuels/chemicals that will be kept on-site at any one time along with the proposed mitigation measures outlined the EIAR (Section 8.5.2.4) which will be applied, as relevant, to the proposed alteration.

Land and landuse Effects (Construction Phase)
The loss of agricultural land/land-use is an inevitable part of the proposed alteration and therefore no mitigation measures, other than standard construction best practices, are proposed.

However, the loss of land is infinitely small in comparison to the quantum of agricultural land in the wider area. Therefore, the residual effects on land and landuse will remain as 'slight'.

Operational and Decommissioning Phase Effects
The operational and decommissioning works will not change as a result of the proposed alteration.

No significant residual effects are likely to occur during the operational and decommissioning phase, as previously assessed in the EIAR.

Cumulative Effects
Given that all likely effects relating to the proposed alteration will be direct, contained within the immediate vicinity of the works areas, and will not extend beyond the site of the proposed

alteration; it is assessed that there is no pathway for the proposed alteration to act in combination with other existing, permitted and proposed developments.

Human Health Effects
A type of development, such as the proposed alteration, is not a recognised source of land or soil pollution and therefore the likelihood of effects during the construction, operational or decommissioning phases are imperceptible.

9 EFFECTS ON HYDROLOGY AND HYDROGEOLOGY

Hydrology and Hydrogeology were assessed in the Seven Hills Wind Farm EIAR under the following headings for the construction, operational and decommissioning phases:

- Earthworks
- Effects on Groundwater flows and level due to alteration of recharge
- Effects on Groundwater Levels and Wells During Excavations
- Effects on Downgradient Surface Waters
- Contamination from Hydrocarbons
- Contamination from Wastewater
- Contamination from Cement-Based Products
- Effects on Turloughs
- Effects on WFD Status
- Effects on Designated Sites
- Effects on Water Supplies

Potential effects on groundwater levels, groundwater flows and local groundwater well supplies have been screened out of the assessment due to the shallow nature of the proposed alteration. The trench will only be 1m deep and no significant dewatering will be required. Any dewatering will be temporary and minor in nature and any effects will be localised to the immediate vicinity of the works area.

The proposed alteration is assessed below in terms of hydrology and hydrogeology.

Excavations (Construction Phase)
The excavation and relocation of material is an inevitable part of the proposed alteration. However, it is considered that the residual effects will remain as 'slight' (as assessed in the EIAR) for the following reasons:

- The location of the proposed alteration is not located in the vicinity of any surface water feature;
- The location of the proposed alteration is remote from any turlough;
- Due to the small scale and minor nature of the proposed alteration, there will be no likelihood of significant effects in terms of the earthworks and subsequent water quality effects;
- Nevertheless, the detailed, tried and tested, best practice mitigation measures, as well as the site-specific, bespoke mitigation measures which have been prescribed in the EIAR for the protection of water quality will be implemented and will provide the necessary protection;
- The wind farm drainage system, as detailed in the submitted EIAR, will be applied to the works area to collect and treat all runoff during the construction phase. The treated surface water will be recharged locally into the subsoils as per the baseline environment.

The overall residual effect will remain as 'imperceptible' considering the scale of the proposed alteration and the implementation of the mitigation measures prescribed in the EIAR.

Effects on Downgradient Surface Waters (Construction Phase)
As stated in the EIAR, no direct surface water pathway exists between the wind farm site and downgradient watercourses. An indirect pathway exists via groundwater recharge and groundwater flow.

The proposed drainage design has incorporated natural attenuation of flows and allows for collected rainwater to be recharge locally back into the aquifer rather than leaving the site in surface water drains. The drainage design also ensures that all runoff is treated prior to discharge to ground and will therefore not contain elevated concentrations of suspended solids.

Due to the lack of surface water drainage from the location of the proposed works, as well as the proposed drainage management plan which ensures the continuation of the baseline hydrological/hydrogeological regime (groundwater recharge with no surface water runoff), along with the in-line treatment system such as check dams and settlement ponds, the residual effect will remain the same as detailed in the EIAR *i.e.* there will be no residual effect on downgradient surface waterbodies.

Contamination from Hydrocarbons/Wastewater/Cement-Based Products
Detailed, tried and tested, best practice mitigation measures in relation to hydrocarbons were prescribed in Section 9.4.2.5 of the EIAR. These measures, which will also be implemented for the proposed alteration include measures such as refuelling off site where possible, the appropriate safe use and handling of hydrocarbons on-site where necessary including fuel bunds and the inclusion of hydrocarbon interceptors within the drainage system to any settlement ponds. The overall residual effects will remain as 'imperceptible' considering the scale of the proposed alteration and the implementation of all mitigation measures prescribed in the EIAR.

Mitigation measures in relation to wastewater were described in Section 9.4.2.6 of the EIAR. The proposed alteration will not require any additional construction compounds or welfare facilities other than those previously assessed; with all wastewater being removed offsite by a licenced contractor. The overall residual effect will remain the same as detailed in the EIAR i.e. no residual effect.

In relation to cement-based products, the proposed alteration will not require any significant volumes of cement-based products. The detailed, tried and tested, best practice mitigation measures prescribed in Section 9.4.2.7 of the EIAR will be implemented throughout the construction phase, including the construction of the proposed alteration. The residual effect will remain as 'imperceptible' as detailed in the EIAR.

Effects on Turloughs
The proposed alteration is distant from any turlough. The only potential pathway to any downgradient turlough is via groundwater recharge and groundwater low. Furthermore, due to the small scale/footprint and minor nature of the proposed works, there is no likelihood of any significant effects on downgradient turloughs.

Nevertheless, detailed, tried and tested, best practice mitigation measures will be implemented in relation to suspended solids, hydrocarbons, cement-based products and wastewater to ensure the protection of local groundwater quality. The drainage design will also mimic the existing hydrological/hydrogeological regime, with runoff from the construction areas being discharged to ground close the source. This will ensure that there will be no effects on groundwater volumes in downgradient turloughs. There will be no residual effects.

Effects on WFD Status
Due to the local hydrogeological regime, the underlying GWBs are the most sensitive receptors. Even in an unmitigated scenario, the potential for the works associated with the proposed alteration to alter the status of these GWBs is very limited due to the scale of the works and the overall size of the underlying GWBs (Suck South GWS covers an area of 1,099km^2 whilst the Funshinagh GWB covers an area of 354km^2). Nevertheless, the strict mitigation measures

prescribed in the EIAR for the protection of groundwater will ensure that there is no deterioration in local groundwater quality.

The overall residual effect will remain as detailed in the EIAR, *i.e.* no residual effect, the proposed alteration will not result in the deterioration in WFD status of any surface or groundwater body nor will it jeopardise the attainment of good status in the future.

Effects on Designated Sites
The proposed alteration is distant from any designated sites. The only potential pathway to any designated site is via groundwater recharge and groundwater flow. Even in an unmitigated scenario, the potential for the works associated with the proposed alteration to impact any downgradient designated sites is very limited due to the scale of the works and the separation distance. Nevertheless, the strict mitigation measures prescribed in the EIAR for the protection of groundwater will ensure that there is no deterioration in local groundwater quality.

The overall residual effect will remain as detailed in the EIAR, *i.e.* no residual effect.

Effects on Water Supplies
The ZoC to the Killeglan Spring is located in the vicinity of T18 and to the south of the proposed alteration. There is no potential for effect on the Killeglan PWS for the following reasons:

- No works associated with the proposed alteration are proposed within the ZoC;
- The separation distance between the source and the proposed works (c. 4.5km);
- The small scale of the proposed alteration;
- Site investigations reveal the presence of thick subsoils which will provide protection to the underlying aquifer;
- Site investigations also record competent limestone bedrock in the local area with no significant fractures or potential groundwater flowpaths; and,
- The implementation of the mitigation measures prescribed in the EIAR for the protection of groundwater quality/quantity.

The residual effect will be the same as detailed in the EIAR i.e. an 'imperceptible' effect.

Operational and Decommissioning Phase Effects
The operational and decommissioning works will not change as a result of the proposed alteration.

No significant residual effects are likely to occur during the operational and decommissioning phase, as previously assessed in the EIAR.

Cumulative Effects
Due to the small scale and minor nature of the proposed works, the local hydrogeological regime, and with the implementation of the mitigation measures prescribed in the EIAR, there is no likelihood of significant cumulative effects with other existing, permitted or proposed developments.

Human Health Effects
Due to the nature of the proposed cabling amendments, and with the implementation of the mitigation measures for the protection of water quality, there is no likelihood of human health effects.

10 CONCLUSIONS

The likely effects of the proposed alteration on the land, soils and geological environment and the hydrological and hydrogeological environment have been assessed with regard the findings of the overall Seven Hills Wind Farm EIAR.

In conclusion, this assessment has determined that the proposed alteration will not result in any likely significant effects on the land, soils and geological environment or on the hydrological and hydrogeological environment which is consistent with the original EIAR.

Where potential minor effects are likely to occur, such as soil erosion or contamination, the implementation of best-practice construction techniques and appropriate mitigation measures as outlined in the Seven Hills Wind Farm EIAR will ensure that any residual effects remain as imperceptible.

Where it is not possible to implement mitigation measures, such as in respect of the direct excavations or land loss, the level of effect is assessed not to be significant.

11 CLOSURE

We trust the above response meets your requirements. Please contact the undersigned if you have any questions regarding the above.

Yours sincerely,

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