



Planning Section,
Leitrim County Council,
Áras an Chontae,
Carrick-On-Shannon,
Co. Leitrim.

Our Ref: 180511a
Your Ref: 20/120

7th April 2021

Re: Pl.Ref.20/120 Croagh Wind Farm Response to Further Information

Dear Sir/Madam,

On behalf of our clients Coillte CGA please find enclosed the further information response (RFI) which has been prepared by MKO in response to the request for further information (FI) issued by Leitrim County Council on the 22nd of September 2020 with regards to Pl. Ref. 20/120. Please note that the Natura Impact Statement (NIS) has been updated as part of the RFI documentation. Ten copies of all RFI documentation are being provided to Leitrim County Council and an electronic version of all documentation is also being provided. This RFI is being submitted within the appropriate time period as an additional 3-month period (until 30th of June 2021) has been agreed with Leitrim County Council as confirmed in correspondence dated the 19th of March 2021.

The further information is being submitted in relation to the proposed Croagh Wind Farm which is seeking planning permission for 8 no. wind turbines, electrical substation, underground cabling, connection to national electricity grid, access tracks/roads, access junction improvements, amenity works and all associated works within the functional area of Leitrim County Council. The entirety of the renewable energy development constitutes the provision of a ten-turbine wind farm and all associated works on lands in both Counties Leitrim and Sligo (with two turbines and all associated works being proposed within the functional area of Sligo County Council). With respect to the planning application which was submitted to Sligo County Council (Sligo County Council Pl.Ref.20/251) please note that further information was also sought on the 18th of September 2020.

Please note that there is crossover between the FI Items raised by Leitrim County Council and Sligo County Council which cover similar themes relating to environmental assessment, ecology, hydrology, geology, nature conservation, etc.

The Leitrim County Council FI request raised a total of 78 no. items along the following themes:

- Landscape and Visual Assessment: - Items 1 to 3
- Nature Conservation: Items 4 to 9
- Peat Stability: Items 10 to 21
- Roads Construction and Earth Works: Items 22 to 26
- Roads, Access, Parking: Items 27 to 36
- Aviation: Item 37



- Water quality and Drainage: Items 38 to 49
- Domestic Wells: Item 50
- Works in proximity to Watercourses Item 51
- Existing Forestry Drainage Item 52
- Mitigation Measures Items 53 – 55
- Construction and Environmental Management Plan (CEMP) Items 56 to 58
- Fisheries Catchments: Item 59
- Birds Items 60 to 61
- Mammals Item 62
- Cumulative effects Item 63
- Distance to nearest dwelling Item 64
- Tourism Item 65
- Noise Items 66 to 70
- Shadow Flicker item 71
- Tree Felling items 72 and 73
- Fuel Storage Item 74
- Water Supply and Waste Water Items 75 and 76
- Decommissioning Item 77
- Third Party submissions Item 78

Sligo County Council’s Further Information request was in 14 multi-part points across the following themes. Please note that there is a discrepancy in the numbering of the Sligo County Council FI which was issued in which there are two references to Item No. 8 (Road Construction & Earthworks and Drainage, the FI response therefore addresses Drainage under item 9 with the remaining five topics being considered under response items 10 to 14)

- Nature Conservation: Items 1(a) to (c)
- Environmental Impact Assessment Report: Item 2
- Ecology: Item 3
- Habitat Loss: Item 4(a) to 4(e)
- Geotechnical and Peat Stability Assessment Report: Items 5(a) to 5(k)
- Fauna: Birds Items 6(a) to 6(v)
- Mammals: Items 7(a) and 7(b)
- Road Construction and Earthworks: Item 8(a) to 8(g)
- Drainage: Items 8(a) to 8(e) [sic] numbering was repeated in request response document answers drainage items as 9(a) to 9(e)
- Surface water and monitoring: Items 9(a) and (b) in FIR, responses are 10(a) and (b)
- Works in proximity to watercourses: Items 10(a) and (b) responses are 11(a) and (b)
- Biodiversity: Item 11 response is numbered 12
- Archaeology: Item 12 response is numbered 13
- Noise: Items 13(a) and (b), responses are numbered 14(a) and (b)

A significant portion of the FI items raised were based on submissions that were made by the National Parks and Wildlife Service (NPWS) and Inland Fisheries Ireland (IFI). Both Planning Authorities requested that liaison be held with these bodies in advance of responding to the FI requests. Further discussions were held with both the IFI and NPWS and these have been used to inform the overall FI response here being submitted.



For the ease of reference and in the interests of clarity for all stakeholders we have prepared the attached table 1 which lists where similar requests have been made from both local authorities. Table 1 outlines the FI items raised by Leitrim County Council and pairs these with the similar point raised by Sligo County Council. A brief summary/synopsis of the response to the noted item has also been provided within the table. This is being provided by way of context and for ease of reference and it is noted that the full provisions of the RFI should be considered to inform opinion on any particular aspect of the project. It should also be noted that certain elements within the requests are unique to each local authority and in this regard please refer to Table 2 which outlines the points raised by Sligo County Council which are not similar in nature to an item raised by Leitrim County Council. Similarly to Table 1 please note that the summary/synopsis has been included to provide context to the Planning Authority and the full provisions of the RFI should be considered to inform assessment of any particular aspect.

The documentation which has been included as part of this letter include the following:

- Leitrim County Council Response to Further Information Report,
- Updated Natura Impact Statement.

Should you require wish to discuss any of the matters outlined within the enclosed documentation further please feel free to get in contact with this office.

Yours sincerely,



Jimmy Green,
Principle Planner,
MKO.





Table 1- Comparison Table of RFI's Items Issued by Leitrim County Council and Sligo County Council

Leitrim County Council	Sligo County Council	Summary/Synopsis of Response to FI Item
FI Item No.4	FI Item No.1(a)	The Screening for Appropriate Assessment report and NIS have been updated to include reference to both the Article 12 and 17 reports under the Birds and Habitats Directives. Both documents have been resubmitted as part of this further information response
FI Item No.5	FI Item No.1(b)	The development site located 18.1km from the Cummeen Strand SPA and is buffered from it by a mixed landscape of forestry, agricultural lands and urban developments. There is no supporting habitat for SCI species at the development site and none were recorded during the extensive suite of surveys undertaken. In the revised Screening for Appropriate Assessment report, the SCI bird species of Cummeen Strand SPA have been screened-in following a precautionary approach and considered in the revised NIS for further assessment.
FI Item No. 6	FI Item No. 1(c)	The NIS identifies measures that have been put in place to prevent any potential for impact as a result of peat slippage under Section 3.2.12.
FI Item No.7	FI Item No. 2	The Article 12 data and site-specific results of dedicated bird surveys assessed within the ornithology chapter were fully assessed during the preparation of the Natura Impact Statement (NIS). The revised NIS also includes specific reference to the Article 12 dataset for completeness, see Section 4.3.3.3.
FI Item No. 8	FI Item No. 3 (Section 2.6 of RFI)	The detailed response to the noted point is contained under the technical note prepared by Hydro Environmental Services Ltd (HES). Based on the provided technical note and as outlined in the EIAR the proposed development has no potential to have direct or indirect impacts on the hydrology/hydrogeology of Carrane Hill Bog NHA.
FI Item No. 9	FI Item No.4(a)	The loss of 0.91 hectares (1.47%) of peatland habitat within the EIAR study area <i>'will be compensated for in full by felling an equivalent area of land where conifers have been planted on blanket bog habitat'</i> per the Peatland Enhancement and Biodiversity Management Plan submitted as part of the planning application.
FI Item No. 10	FI Item No. 4(b)	The area of peatland habitat (i.e. Upland Blanket Bog (PB2)) lost to the proposed development footprint 'at Turbine 1' is approximately 0.91 hectares (1.47%) of the overall proposed development (Section 6.7.3.1.2 of the EIAR). As outlined this has been fully compensated for.
	FI Item No. 4(c)	Please note that Table 6-13 of Chapter 6 of the EIAR provides all habitat areas in hectares, i.e. 30.46 ha of 580.9 ha.
	FI Item No. 4(d)	In relation to the cumulative loss of underlying peat during the felling of conifer plantation as part of the proposed development, the potential loss of carbon compared to the restoration of peatland habitat has been accounted for in the carbon loss and savings analysis, which is noted in Section 10.2.3 of Chapter 10 of the EIAR.
	FI Item No. 4(e)	As described in the response to Item No. 4(a) above, the Upland Blanket Bog (PB2) habitat lost to the proposed development footprint at Turbine 1 has been fully compensated for in the site-specific Biodiversity Management Plan, provided in Appendix 6-5 of the EIAR.
FI Item No. 11	FI Item No. 5(a)	The Dawn of Hope landslide is primarily attributed to an intense rainfall event and the concentration of runoff from forestry drainage into an area of saturated, relatively weak peat, and likely due to the blockage of some forestry drains. The impact of such an event can be mitigated by ensuring that all existing forestry drainage is maintained during the proposed construction works. Slope angle is only one part of the stability assessment. Fehily Timoney do not solely rely on the factor of safety measurement; a risk assessment using qualitative factors is also used to determine the relative risk of peat instability on a site
	FI Item No. 5(b)	
FI Item No. 12	FI Item 5(d)	An updated drainage map has been submitted as part of this request for further information (refer to Figure 1-1 and Appendix I of HES' technical note).

Leitrim County Council	Sligo County Council	Summery/Synopsis of Response to FI Item
FI Item No. 14	FI Item No. 5(c)	The proposed mitigation measures will ensure that surface runoff from the developed areas of the site will be of a standard that will not significantly affect downstream water quality and will therefore have no potential to impact on the existing WFD status of downstream surface water bodies including the Kilanummery_010 sub-catchment.
FI Item No. 15	FI Item No. 5(f)	An assessment of the stability of perimeter berm at the Borrow Pit and Peat Repositories is attached in Appendix A of the technical note provided by Fehily Timoney. The results of the stability assessment show an adequate factor of safety against instability.
FI Item No. 16	FI Item No. 5(e)	An assessment of the stability of the Borrow Pit is attached in Appendix A of Fehily Timoney's technical note. The borrow pit drawing has been updated (refer to Appendix C of the technical note) to show on the plan the proposed internal buttresses/upstands and specific angles and measurements.
FI Item No. 17	FI Item No. 5(h)	The discrepancy highlighted under Item 5(h) has been noted and Fehily Timoney clarify that the text in Section 3.2 of the Geotechnical and Peat Stability Assessment Report (Appendix 8-1 of the EIAR) should read: <i>the site is generally classified by the GSI (2019) as 'low' to 'moderately high' susceptibility.</i>
FI Item No. 18	FI Item No. 5(i)	The detailed response to the noted FI Item is contained under the technical note prepared by Fehily Timoney which has been appended to the RFI report.
FI Item No. 19	FI Item No.5(j)	The detailed response to the noted FI Item is contained under the technical note prepared by Fehily Timoney which has been appended to the RFI report.
FI Item No. 20	FI Item No. 5(k)	The factors of safety calculated at T8 and T9 are all above 1.3, which is considered to provide a satisfactory factor of safety against peat failure.
FI Item No. 22	FI Item No. 8(b)	Please note that 11.1km (~60%) of the wind farm roads already exist as forestry track and are proposed for upgrade. The upgrading of these roads, presents a potential short-term insignificant effect to surface water quality during construction and will have a positive effect in the long-term with regard to improved attenuation measures and drainage controls that will be implemented.
FI Item No. 23	FI Item No.8(c)	All potential impacts to surface water assessed in Chapter 9 of EIAR are indirect impacts. No direct impacts are anticipated as no part of any natural watercourse will be changed/alterd.
	FI Item No.8(d)	
FI Item No. 24	Fi Item No. 8(e)	The outline methodologies for the construction of wind farm site roads, including the upgrade of existing roads and construction of new roads are included in Section 4.3.2 in Chapter 4 and in Appendix 4-2 of the previously submitted EIAR. Please note that stone material used will have an adequate tensile strength so as to accommodate the movement of heavy vehicles and plant used during the construction phase of the proposed development.
FI Item No. 25	FI Item 8(f)	The recorded lower factors of safety (values of between 1 and 1.3) on existing excavate and replace roads are a result of using lower bound shear strength values at locations of relatively steep slopes, as stated in Section 7.3 of Appendix 8-1 of the EIAR.
FI Item No. 26	FI Item No. 8(g)	The excavate and replace roads proposed will be founded on a competent stratum (i.e. if any very soft or soft clay is present beneath the peat it will be removed and replaced with granular fill). This will significantly reduce the risk of a failure occurring within this layer from construction loading and/or vibrations on excavate and replace roads.
FI Item No. 32	FI Item No. 11(a)	As part of the construction of the proposed new site roads for the Croagh Wind Farm development, 9 no. new watercourse crossings will be required. The locations of the noted water crossings are shown within the response as requested.
FI Item No. 40	FI Item No. 9(a)	

Leitrim County Council	Sligo County Council	Summery/Synopsis of Response to FI Item
	FI Item No. 9(b) FI Item No. 9(c)	<p>The purpose of the drainage plan submitted with the EIAR was to show that the proposed development can be constructed and operated with a high standard of surface water quality protection measures in place. Updated drainage plans are provided under Appendix I of the HES technical note.</p> <p>With regard to treatment standards, the drainage system has been designed to achieve compliance with surface water Environmental Quality Standards (EQS) in the downstream receiving waters.</p> <p>In relation to concerns regarding the potential for erosion at points where interceptor drains discharge concentrated flows to bog/vegetated ground using a level spreader, it is proposed that a gravel bed, underlain by a geotextile layer will be placed below the level spreader outfalls and this gravel will provide protection to the underlying ground. The gravel will help maintain laminar flow as the discharge leaves the level spreader.</p>
FI Item No.41	FI Item No. 9(d) FI Item No. 9(e)	<p>The locations and sizing calculations of the settlement ponds are shown on the updated drainage plans included in Appendix I and Appendix II of HES' technical note.</p> <p>Straw bales are only intended as a temporary drainage control measure during the construction phase. They are not intended to be a primary treatment component for development surface water runoff, they are not stand alone but occur as part of a treatment train of systems.</p>
Fi Item No. 42	FI Item No. 10(b)	A Surface Water Management Plan (SWMP) has been included under Appendix 9 of the LCC response and Appendix 4 of the SCC response.
FI Item No. 51	FI Item No. 11(b)	The locations of each of the grid connection cable watercourse crossings are shown on the previously submitted planning application drawings. The table included as Appendix A in Appendix 4-6 of the EIAR has been amended, the amended table is included under Appendix A of the LCC response and Appendix 7 of the SCC response.
FI Item No. 59	FI Item No. 12	Site specific mitigation measures have been incorporated into the proposed development for the protection of sensitive downstream aquatic receptors, including the Killanummery, Arigna, Owengar and Tullynascreena catchments. All aquatic habitats and species are identified as Key Ecological Receptors (KERs) and are fully assessed and considered in the EIAR. The impact assessment concludes that <i>'following the implementation of mitigation, there will be no significant residual effect on aquatic habitats or species as a result of the proposed development'</i> .
FI Item No. 60 FI Item No. 61	FI Item No. 6	Further information relating to birds provided in line with the FI sought by LCC and SCC.
FI Item No. 62	FI Item No. 7(a) FI Item No. 7(b)	<p>The surveys undertaken at the site of the proposed development are fully in line with the industry best practice (SNH, 2019) and a comprehensive assessment was achieved.</p> <p>Overall risk levels for high collision risk bat species was typically Medium. This risk level is reflective of the nature of the site, which is an upland conifer plantation with low levels of bat activity recorded during the static detector surveys as well as walked and driven transects undertaken.</p>

Table 2- Sligo County Council FI Items raised which do not have a similar Corresponding FI Item within the Leitrim FI request

Sligo County Council	Further Information Wording	Sligo Further Information Response Section
FI Item No 8(a)	The proposed upgrade of roads is detailed within the main report at comprising 10.9 km of road, (a figure of 11.1 km is given within the Peat Spoil Management Plan). You are requested to address the aforementioned discrepancy.	In response to FI Point 8(a) the correct measurement for proposed upgrade roads is 10.9km per Section 1.4 of the EIAR and Appendix 4.2 of the Peat and Spoil Management Plan. (Refer to Section 2.10.1 of the SCC RFI).
FI Item No 12 (SCC request responded to as item 13 in RFI)	You shall engage the services of a suitably qualified archaeologist to carry out an archaeological assessment over the entire development site in order to assess the potential impact, if any, on archaeological remains in the area where development is proposed to take place. This assessment should include a description of the known and potential archaeological remains based on results of field walking, documentary research, cartographic research, examination of aerial photography and a visual impact report. Should there be a significant archaeological impact, the National Monuments Section will advise on further mitigation. It should be borne in mind, that if significant archaeological remains are found, refusal might still be recommended, or further archaeological mitigation may be required.	An archaeological assessment was provided under Chapter 13 of the EIAR of the submitted EIAR. The assessment was carried out by Miriam Carroll and Annette Quinn of Tobar Archaeological Services. The purpose of the chapter was to assess the potential direct, indirect and cumulative effects of the proposed development on the surrounding archaeological, architectural and cultural heritage landscape. As outlined in Section 13.3 of Chapter 13 of the EIAR, no recorded monuments, National Monuments, RPS, NIAH or new archaeological sites are located within the EIAR boundary. No direct impacts to any of the aforementioned sites will therefore occur. Refer to Section 2.16.1 of the SCC RFI.
FI Item No 14(a)	You shall submit a map drawn to an appropriate scale showing distances from all noise sensitive locations within 5km of Turbines T03 & T10 and clarify how the noise monitoring locations were selected given the wind direction.	Refer to Section 2.17.1 of the SCC RFI. Figure 1 of AWN's technical note shows all of the noise sensitive locations within 5km of Turbines T03 and T10. Locations A, B, D and I as depicted were selected to cover the range of noise environments to the north of the central part of the proposed development. Locations C, E, F and J were chosen to represent noise environments to the northeast and east; locations G and H represent the noise environment to the west.
FI Item No. 14(b)	You shall clarify that there will be no impact on dwellings in relation to noise and vibration associated with the proposed rock blasting works on-site. You shall submit a map drawn to an appropriate scale where the proposed rock blasting works will occur and the environmental migration measures to be implemented.	Refer to Section 2.17.2 of the SCC RFI The closest sensitive receptor to the proposed borrow pit is located 1.8km to the northeast. Under the two scenarios presented within the EIAR (Scenario A which includes blasting and Scenario B which includes rock breaking rather than blasting) noise levels at noise-sensitive locations due to the activity at the borrow pits are well within the construction noise criteria of 65 dB LA _{eq} .