

15.

MATERIAL ASSETS

Material Assets are defined in the ‘Guidelines on the Information to be contained in Environmental Impact Assessment Reports’ (EPA, 2022) ‘as *‘built services and infrastructure. Traffic is included because in effect traffic consumes transport infrastructure’*. They may be either of human or natural origin.

The cultural assets of Archaeology and Cultural Heritage are addressed in Chapter 14 of this Environmental Impact Assessment Report (EIAR). Economic assets of natural heritage include non-renewable resources such as minerals or soils, and renewable resources such as wind and water. These assets are addressed in Chapter 8: Land, Soils and Geology, Chapter 9: Hydrology and Hydrogeology, Chapter 10: Air Quality, and Chapter 11: Climate. Tourism and amenity resources, which are also considered material assets, are addressed in Chapter 5 on Population and Human Health. The Population and Human Health chapter also addresses existing land-uses (economic assets), including forestry and agriculture.

This chapter of the EIAR addresses the likely significant effects of the Prospective Development on transportation infrastructure (Section 15.1 Traffic and Transport), on Telecommunications and Aviation (Section 15.2.1) and Other Material Assets (Section 15.2.2), which are economic assets of human origin. Waste Management is also considered within EPA, 2022 as part of Material Assets. Waste Management pertaining to the construction, operation and decommissioning of the Prospective Development is summarised in Section 4.5.7 of Chapter 4 of the EIAR. Traffic volumes generated by the removal of waste from the Prospective Development to fully authorised waste facilities, is considered in Section 15.1 below.

This chapter of the EIAR has been prepared in accordance with the requirements of the Environmental Impact Assessment (EIA) legislation and guidance outlined in Chapter 1 Introduction. The assessment of likely significant effects on material assets uses the standard methodology and classification of impacts as presented in Section 1.7.2 of Chapter 1 of this rEIAR.

As detailed in Section 1.1.1 in Chapter 1 of this EIAR, the various development components are described and assessed using the following references: ‘Subject Development’, ‘Existing Development’, ‘Prospective Development’, ‘Permitted Development’, ‘Site’, ‘Wind Farm Site’, ‘Grid Connection Site’, ‘BMEP Site’, ‘Grid Connection’, ‘November 2020 Peat Slide’, ‘2017 EIAR’ and ‘proposed turbines’ or ‘proposed turbine locations’.

15.1

Traffic and Transport

15.1.1

Introduction

15.1.1.1

Background and Objectives

This section of the EIAR assesses the effects on roads, traffic and transport of the traffic movements that will be generated during the construction, operational and decommissioning phases of the Prospective Development.

For developments of this nature, the construction phase is the critical period with respect to the traffic effects experienced on the surrounding road network in terms of both the additional traffic volumes that will be generated on the road network, and the geometric requirements of the abnormally large loads associated with the wind turbine components. The geometric requirements of the additional traffic and abnormal sized loads generated during the construction phase were assessed for the external highway network and at the existing junction that provides access to the Site.

It should be noted that abnormal weight loads are not a feature of the turbine component delivery vehicles, they are abnormal in size only. All construction and delivery vehicles for the Prospective Development will be subject to the standard axle weight requirements set out under Road Traffic

Regulations and therefore the loadings from construction traffic will not exceed the relevant standards. Notwithstanding the need to use some specialist vehicles to facilitate turbine delivery, it should be noted that the number of load-bearing axles for any specialist vehicles carrying large loads are designed to ensure that the load on any one axle does not exceed acceptable load bearing statutory limits. In the event that a vehicle type and load with excessive axle loads is proposed for the delivery of materials / components to the site, an assessment of the delivery route proposed will be prepared and submitted to the relevant authorities.

The magnitude of the increase in traffic volumes experienced on the surrounding network is identified during the various construction, operational and decommissioning stages of the Prospective Development. The Traffic Management Plan for the construction of the Existing Development is also provided in Appendix 15-2 of this EIAR and summarised in Section 15.1.11.5.2 below, aimed at minimising the traffic impact on the local highway network. In the event that planning permission is granted for the Prospective Development, the Traffic Management Plan will be updated in line with any new conditions or agreements.

Other details that are pertinent to this traffic and transport assessment are detailed below;

- › The completion of construction of civil works at the Site – To date, as part of the Existing Development, approximately 90% of the ground works associated with the Wind Farm Site are complete, with materials to be delivered to site for the remaining ~10% of civils and associated works to be complete as part of the Prospective Development.
- › The delivery of the materials required for the construction of the remaining 5 no. turbine foundations.
- › The delivery of all components of the 19 turbines, including large components that will comprise abnormally sized loads (blades, tower sections and nacelles) and smaller components that will be transported by means of standard sized HGV.
- › The on-site substation and the Grid Connection between it and the Clogher Substation has been constructed as part of the Existing Development.
- › Tree felling and other works on the BMEP Site.

15.1.1.2 Statement of Authority

This section of the EIAR has been prepared by Alan Lipscombe of Alan Lipscombe Traffic and Transport Consultants Ltd. Alan is an expert in traffic and transport assessments. In 2007 Alan set up a traffic and transportation consultancy providing advice for a range of clients in the private and public sectors. Prior to this Alan was a founding member of Colin Buchanan's Galway office having moved there as the senior transportation engineer for the Galway Land Use and Transportation Study. Since the completion of that study in 1999, Alan has worked throughout Ireland on a range of projects including: major development schemes, the Galway City Outer Bypass, Limerick Planning Land-Use and Transportation Study, Limerick Southern Ring Road Phase II, cost benefit analyses (COBA) and various studies for the University of Galway. Before moving to Galway in 1997, Alan was involved in a wide variety of traffic and transport studies for CBP throughout the UK, Malta and Indonesia. He has particular expertise in the assessment of development related traffic, including many wind farm developments including the following; Ardderroo, Derrinlough, Knocknamork, Shehy More, Clonreen, Derrykillew, Ballyhorgan, Lettergull, Barnadivane, Cleanrath, Knockalough, Sheskin South and Borrisbeg.

Alan has a BEng (hons) Degree in Transportation Engineering (Napier University, Edinburgh, 1989), is a member of Engineers Ireland and of the Institute of Highways and Transportation and is a TII accredited Road Safety Audit Team Member.

Traffic counts were undertaken by Traffinomics Ltd, which is an Irish traffic survey company with a comprehensive knowledge of traffic data collection methods. The company, established in 2014, is headed by Simon Wheeler, who has been in the traffic survey data collection business for 35 years. Previously Simon worked with Count On Us Ltd., followed by Abacus Transportation Surveys Ltd., Ireland's first lens-based traffic data collection business. Clients of Traffinomics Ltd. include TII, Local Authorities and many leading retailers.

15.1.1.3 Guidance on Assessment of Effects

This section of the EIAR has been completed in accordance with the EIA guidance set out in Section 1.2 of Chapter 1 Introduction of this EIAR. The assessment uses standard terminology to describe the likely significant effects associated with the Prospective Development. Further information on the classification of effects used in this assessment is presented in Section 1.7.2 of this EIAR.

15.1.1.4 Scoping and Consultation

Transport Infrastructure Ireland

Transport Infrastructure Ireland (TII) responded to scoping via an email dated 17th September 2025, in which it provided a list of recommendations to be followed when preparing the EIAR. All relevant TII guidelines and policies have been adopted in the preparation of this assessment, including the following:

- PE-PDV-02045, Transport Assessment Guidelines, Transport Infrastructure Ireland, May 2014
- PE-PAG-02017, Project Appraisal Guidelines, Unit 5.3, Travel Demand Projections, Transport Infrastructure Ireland, October 2021
- DN-GEO-03060, Geometric Design of junctions, Transport Infrastructure Ireland, May 2023.

Specific issues raised by TII include the following as set out in Table 15-1a below.

Table 15-1a Issues raised by TII in relation to the Subject Development and Responses

ID	Comment/Recommendation	Response
1	TII notes that the subject site has proposed access to the N15, national road. Access to the road network shall be developed in accordance with official policy and road safety considerations. As outlined above, access directly to a national road outside a reduced 50 – 60kph speed limit location should be avoided in accordance with the provisions of official policy. Alternative arrangements should be identified to ensure adherence to the provisions of official policy and in the interests of road user safety.	The design of the existing / proposed junction on the N15 National Road is included in Section 15.1.9. of this EIAR, including its context in relation to the Spatial Planning and National Roads Guidelines for Planning Authorities (NRA, now TII, January 2012).
2	Consultations should be had with the relevant Local Authority / National Roads Design Office, with regard to the locations of existing and future national roads schemes.	Consultation has been undertaken with Donegal County Council by email on the 5 th September, 2025, with an emailed response received on the 8 th September, 2025, as set out in this Section below.
3	TII would be specifically concerned as to potential significant impacts the development would have on the national road network (and junctions with national roads), in the proximity of the proposed development, including the potential haul route.	The impacts of the Prospective Development on the construction material and turbine component delivery routes are set out in terms of link flows in Sections 15.1.6 of the EIAR, while an assessment of the capacity of the N15 National Road / existing Wind Farm Site entrance junction is set out in Section 15.1.6.4. There are no impacts associated with a Grid Connection underground cabling route as part of the Prospective Development. A swept path analysis undertaken for the abnormally

ID	Comment/Recommendation	Response
		large loads on the Turbine Delivery Route is set out in Section 15.1.8 of the EIAR. The assessment sets out the temporary local measures that will be required on the national, regional and local road networks during the construction of the Prospective Development.
4	The developer should assess visual impacts from existing national roads.	An assessment of the visual impacts associated with the Prospective Development is set out in Chapter 13 LVIA of this EIAR.
5	The developer should have regard to any EIAR/EIS and all conditions and/or modifications imposed by An Coimisiún Pleanála regarding road schemes in the area. The developer should, in particular, have regard to any potential cumulative impacts.	An assessment of the traffic and transport related cumulative impacts associated with the Prospective Development is set out in Section 15.1.12 of this EIAR.
6	The developer, in preparing EIAR, should have regard to TII Publications (formerly DMRB and the Manual of Contract Documents for Road Works).	This is agreed as set out above.
7	The EIAR and rEIAR should have regard to TII's Environmental Assessment and Construction Guidelines, including the Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes (National Road Authority (NRA), 2014).	An assessment of the noise and vibration related impacts associated with the Prospective Development is set out in Chapter 12 of this EIAR.
8	The EIAR should consider the 'European Communities (Environmental Noise) Regulations, 2018, (S.I. no. 549 of 2018)', and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers to reduce noise impacts (see 'Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes (NRA, 2014)').	As above, refer to Chapter 12 Noise of this EIAR.
9	It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment (TTA) be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site, with reference to impacts on the national road network and junctions of lower category roads with national roads. In relation to national roads, TII's 'Traffic and Transport Assessment Guidelines' (2014) should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of TII's TTA Guidelines, which addresses requirements for sub-threshold TTA.	It is confirmed that the assessment presented in this section of the EIAR is undertaken in accordance with Traffic and Transport Assessment Guidelines, TII (2014).

ID	Comment/Recommendation	Response
	Any improvements required to facilitate development should be identified. It will be the responsibility of the developer to pay for the costs of any improvements to national roads to facilitate the private development proposed, as TII will not be responsible for such costs.	
10	The designers are asked to consult TII Publications to determine whether a Road Safety Audit is required.	The Wind Farm Site entrance junction on the N15 National Road is as existing. Based on this it is considered that there is no requirement for a Road Safety Audit in accordance with Road Safety Audit Guidelines GE-STY-01027, TII, May 2025.
11	In the interests of maintaining the safety and standard of the national road network, the EIAR and eEIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network.	There are minor upgrade works proposed at the Wind Farm Site entrance off the N15 National Road, as discussed in Section 15.1.10. All works on the Wind Farm Site entrance will be undertaken from within the Wind Farm Site and will not impact on the N15 National Road. All trimming of hedgerows required for the provision of visibility splays will be undertaken in accordance with TII specifications.
12	TII recommends that the applicant/developer should clearly identify haul routes proposed and fully assess the network to be traversed. Where abnormal 'weight' loads are a feature of the development, e.g., turbine or substation components, separate structure approvals/permits and other licences may be required in connection with the proposed haul route. All national road structures on the haul route through all the relevant County Council administrative areas should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal 'weight' load proposed. Any requirements for 'Exceptional Abnormal Loads' should also be addressed in accordance with TII Publications.	There are no abnormal vehicle axle weights associated with any traffic generated by the Prospective Development.
13	In addition, the haul route should be assessed to confirm capacity to accommodate abnormal 'length' loads and any temporary works required are identified.	A swept path analysis of the proposed turbine delivery route has been undertaken, as set out in Section 15.1.8.
14	The applicant/developer should also consult with all PPP Companies, Motorway Maintenance and Renewals Contractors (MMaRC) and local road authorities, in association with TII. The applicant/developer should also consult with all PPP Companies, MMaRC Contractors and	Consultation will be undertaken with these bodies prior to the delivery of abnormally large loads.

ID	Comment/Recommendation	Response
	road authorities over which the haul route traverses to ascertain any operational requirements, including delivery timetabling, etc. to ensure that the strategic function of the national road network is safeguarded.	
15	Where temporary works within any MMarC Contract Boundary are required to facilitate the transport of turbine components to the site, the applicant/developer shall contact thirdpartyworks@tii.ie in advance, as a works specific Deed of Indemnity will be needed by TII before the works can take place.	The Applicant agrees with this condition.
16	Additionally, any damage caused to the pavement on the existing national road arising from any temporary works due to the turning movement of abnormal loads (e.g. tearing of the surface course, etc.) shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority prior to the commencement of any development on site.	The Applicant agrees with this condition.
17	Where grid connection and cable routing form part of any development proposal, proposals should be developed to safeguard proposed road schemes, as TII will not be responsible for costs associated with future relocation of cable routing where proposals are catered for in an area of a proposed national road scheme. In that regard, consideration should be given to routing options, use of existing crossings, depth of cable laying, etc. Consultation should be undertaken with Donegal County Council to ascertain any relevant national road schemes in the area.	The Grid Connection is constructed, and operational and has been assessed in the rEIAR as part of the Existing Development. Therefore, the construction of the Grid Connection is not part of the Prospective Development.
18	Where grid connection proposals impact the existing national road network, please note, in accordance with the National Planning Framework National Strategic Outcome No. 2 ‘Enhanced Regional Accessibility’, there is a requirement to maintain the strategic capacity and safety of the network. This requirement is further reflected in the NDP, the National Investment Framework for Transport in Ireland and also the existing Statutory Section 28 ‘Spatial Planning and National Roads Guidelines for Planning Authorities’.	The Grid Connection is constructed, and operational and has been assessed in the rEIAR as part of the Existing Development. Therefore, the construction of the Grid Connection is not part of the Prospective Development.

Department of Transport

A response to scoping was received from the Department of Transport (DoT) on 23rd September 2025. The response refers to issues relating to the Grid Connection and works within the public road network. It is noted that there is no grid connection included as part of the Prospective Development.

The issues raised and the Applicants responses are provided in Table 15-1b as follows:

Table 15-1b Issues raised by DoT in relation to the Subject Development and Responses

ID	Comment/Recommendation	Response
1	Their presence within the public road will likely significantly restrict the Road Authority in carrying out its function to construct and maintain the public road and will likely add to the costs of those works post construction.	The Grid Connection is constructed, and operational and has been assessed in the rEIAR as part of the Existing Development. Therefore, the construction of the Grid Connection is not part of the Prospective Development.
2	Their installation within the lands associated with the public road may affect the stability of the road. In particular where the road is a “legacy road” (where there is no designed road structure and the subgrade may be poor or poorly drained) or bog rampart the design needs to take account of all the variable ground conditions and not be based on a sample of the general soil conditions. This should include a constructability assessment to a 950mm minimum cover depth to the HV Cable on legacy roads, roads over peat/bog ramparts.	The Grid Connection is constructed, and operational and has been assessed in the rEIAR as part of the Existing Development. Therefore, the construction of the Grid Connection is not part of the Prospective Development.
3	The possible effect on the remaining available road space (noting that there may be need to accommodate other utilities within the road cross-section in the future or additional drainage for climate adaptation) on potential future development.	The Grid Connection is constructed, and operational and has been assessed in the rEIAR as part of the Existing Development. Therefore, the construction of the Grid Connection is not part of the Prospective Development.
4	The necessity to have the power in the cables switched off (particularly where structural failures occur due to extreme weather events) where the Road Authority considers this necessary in order to carry out its function to construct and maintain the public road and a complete operation and maintenance manual should be agreed with the Local Authority.	The Grid Connection is constructed, and operational and has been assessed in the rEIAR as part of the Existing Development. Therefore, the construction of the Grid Connection is not part of the Prospective Development.
5	Examination of all available technologies including both Overhead Line (OHL) and Underground Cable (UGC) options (or combinations of both) and route options other than the routing of cables along the public road to ensure the best performing route and technology option is selected, (ensuring compliance with CAP24). The public road should only be considered following a robust MCA determining the optimal solution including examining the most linear solutions.	The Grid Connection is constructed, and operational and has been assessed in the rEIAR as part of the Existing Development. Therefore, the construction of the Grid Connection is not part of the Prospective Development.
6	Examination of options for connection to the national grid network at a point closer to the wind farm in order to reduce the adverse impact on public roads.	The Grid Connection is constructed, and operational and has been assessed in the rEIAR as part of the Existing Development. Therefore, the construction of the Grid Connection is not part of the Prospective Development.

Donegal County Council

Scoping Documentation was issued to Donegal County Council by email on the 5th September, 2025, with an emailed response received on the 8th September, 2025. The points raised by Donegal County Council, together with the Applicants responses are set out in Table 15-1c.

Table 15-1c Issues raised by Donegal County Council in relation to the Proposed Project and Responses

ID	Comment/Recommendation	Response
1	It is note from your (scoping) email that it stated that the grid connection is fully constructed. This is not the case. The grid connection work was applied for as part of a road opening licence application and the applicant was Mid Cork Electrical. Donegal County Council has been working with a Mr Michael Muranne and a Mr Thomas Scanlon on the grid connection works, and we are currently waiting on a reply from them in relation to the permanent road reinstatement works between the windfarm access point where it meets the public road along the N15 National Primary road and along the local road network to the sub-station at Clogher.	Following receipt of the scoping response, the contractor liaised with DCC to resolve the matter of the reinstatement of the N15 National Road and local road network to the Clogher Substation. The Grid Connection is fully constructed and energised. It is understood that agreement has been reached between DCC and the contractor that there are no further obligations for the re-instatement of the relevant roads subject to the road opening licences for the Grid Connection.
2	As part of the road opening licence conditions, it was agreed with the Area Roads Office that the applicant would install three new culverts under the N15 to future proof the drainage crossing the road under the grid connection ducts. The provision of these three culverts requires planning consent which they did apply for, but it was subsequently refused as it was deemed premature and contrary to proper sustainable planning given the current unauthorised nature of the Meenbog Windfarm and the ongoing legal proceedings. Is the provision of these three culverts part of the scoping request?	In relation to the installation of 3 new culverts under the N15 National Road, this was subject to a separate application ACP (ACP Case Ref: PL05E.321718, DCC: 2460495), The appeal was refused on the 11 th of June 2026. The upgrade of the culverts is functionally independent from the Subject Development. The Grid Connection is constructed, energised and fully operational.

15.1.1.5 Methodology and Section Structure

The report adopts the guidance for such assessments set out by Transport Infrastructure Ireland, or TII, in the document number PE-PDV-02045 *Traffic and Transport Assessment Guidelines, May 2014*. The geometric requirements of the transporter vehicles were assessed using AutoCAD and Autotrack.

The Traffic and Transport Section of the EIAR is set out as follows:

- A review of the existing and future transport infrastructure in the vicinity of the Prospective Development, including the proposed turbine delivery route, an assessment of base 2025 traffic flows and traffic forecasts during an assumed construction year of 2028 (Section 15.1.2 Receiving Environment and 15.1.3 – Existing Traffic Volumes),
- A description of the nature of the Prospective Development and the traffic volumes that it will generate during the different construction stages and when it is operational (Section 15.1.4 – Prospective Development and Traffic Generation),

- › A description of the abnormally large loads and vehicles that will require access to the Site (Section 15.1.5 Construction Traffic Vehicles),
- › A review of the effects during of the Prospective Development, including an assessment on links and junctions during construction phase (i.e 8 months) and when the facility is operational (Section 15.1.6 –Traffic Effects During Construction and Operation and Decommissioning of the Prospective Development),
- › Traffic management of large deliveries and a geometric assessment of the routes and their capacity to accommodate the abnormal loads associated with the Prospective Development (Section 15.1.7 – Traffic Management of Large Deliveries and Section 15.1.8 – Abnormal Load Route Assessment),
- › A review of the Wind Farm Site entrance off the N15 National Road (Section 15.1.9– Wind Farm Site Entrance Junction)
- › An assessment of the provision for sustainable modes of travel (in this case primarily with respect to the transport of construction staff) (Section 15.1.10 – Provision for Sustainable Modes of Travel),
- › A description of potential effects of the Prospective Development on Roads and Traffic (Section 15.1.11 – Likely Effects and Associated Mitigation Measures).
- › A description of potential cumulative effects of the Prospective Development on Roads and Traffic (Section 15.1.12 – Cumulative Effects – Prospective Development).
- › A description of potential effects of the Prospective Development and Existing Development, the Subject Development, on Roads and Traffic (Section 15.1.13 – In-Cumulation Effects).
- › A description of potential cumulative effects of the Subject Development on Roads and Traffic (Section 15.1.14 – In-Cumulation Effects).
- › A description of potential effects of the Subject Development on Roads and Traffic (Section 15.1.13 – Cumulative Effects – Subject Development).

15.1.2 Receiving Environment

15.1.2.1 Site Location

The Wind Farm Site is located within a rural, agricultural setting in County Donegal approximately 8 km southwest of the twin towns of Ballybofey and Stranorlar and approximately 12 km northeast of Donegal Town at its nearest point. The Grid Connection Site extends southwest from the Wind Farm Site for approximately 6 km along the N15 National Road towards Donegal Town before exiting the N15 to the southeast and following Local Roads, adjacent agricultural land and private access track to the Clogher 110kV substation. The BMEP Site is comprised of two parcels of land consisting of coniferous forestry and associated forestry access tracks. The BMEP Site is located in the townland of Tievecloagh and comprises two land parcels, referred to as Parcel 1 (to the east) and Parcel 2 (to the west). Parcel 2 is located approximately 2.3km east of the Wind Farm Site, and Parcel 1 is located approximately 4.2km east of the Wind Farm Site. Parcel 2 is approximately 2.5 km to the northeast of the Wind Farm Site, as shown in Figure 15-1 of Appendix 15-1.

15.1.2.2 Proposed Turbine Delivery Route

The large wind turbine components will be delivered to the Wind Farm Site, from Killybegs Port via the Turbine Delivery Route (TDR) shown in Figure 15-1 of Appendix 15-1 Traffic and Transport Figures.

The TDR exits Killybegs Port and travels northeast on the R263 Regional Road for approximately 2.8km to a point where the road changes to the N56 National Road. From this point the TDR travels east on the N56 National Road for approximately 25.6km to the Drumlonagher Roundabout situated on the east side of Donegal Town. From this point the TDR heads northeast on the N15 National Road for approximately 13.4 km to the location of the existing Wind Farm Site entrance located in the Townland of Croaghonagh.

A detailed autotrack assessment of the potential pinch points on the TDR was undertaken based on the largest vehicle that will negotiate the route, which is the extended transport vehicle carrying the turbine

blades. The locations on the TDR included in the autotrack assessment are shown in Figure 15-2a of Appendix 15-1, with the results of the assessment discussed in Section 15.1.8.

The total length of the turbine delivery route is approximately 42km.

15.1.2.3 Proposed Construction Traffic Haul Route

Construction materials such as concrete, and steel will follow the same transport route as the wind farm turbines components from the National Road network to the Wind Farm Site and BMEP Site. All construction vehicles entering the Wind Farm Site will enter from the south and north, via the existing Wind Farm Site entrance junction on the N15 National Road as indicated on Figure 15-1 of Appendix 15-1.

All concrete required for each of the remaining 5 turbine foundations will be delivered to the Wind Farm Site in one day per foundation for a total of 5 days. All concrete and other deliveries provided by local quarries will access the Wind Farm Site via the existing Wind Farm Site entrance junction off the N15 National Road, at the location shown in Figure 15-1 of Appendix 15-1.

All traffic travelling to / from the BMEP site will gain access to the N15 by accessing the site via the short section of the L6554 local road and the site access to the north of T17, travelling through the Wind Farm Site on the internal road network and accessing / exiting the site via the site access junction on the N15. Temporary traffic management measures, including signs and the presence of flagmen, will be implemented on the section of the L6554 on the days that tree felling takes place on the BMEP site. Once the BMEP is construction tree felling activity will return to existing levels.

There will be no additional traffic movements generated by the Wind Farm Site or the BMEP Site at the N15 / L6554 junction.

15.1.2.4 Grid Connection

The Grid Connection route extends from the onsite 110kV substation within the Wind Farm Site northwest to the N15 National Road. The route then follows the N15 National Road southwest for approximately 6km to the L-2595 Local Primary Road, then proceeds to the L-1985 Local Primary Road where it travels east along the road and through agricultural lands parallel to the local road before continuing along the L-19852 Local Tertiary Road and finally following a private road to reach the Clogher 110kV substation. The construction of the Grid Connection is complete and will therefore not result in any additional traffic related effects on the local highway network.

15.1.3 Traffic Volumes

Traffic volumes are discussed in terms of either vehicle numbers, or Passenger Car equivalent Units (PCUs), where each vehicle is expressed in terms of its demand on the network relative to the equivalent number of cars. For example, an articulated Heavy Goods Vehicle (HGV) was given a factor of 2.4 PCUs (as per TII Project Appraisal Guidelines for National Roads Unit 5.2), while one of the extended loaders required to transport the wind turbine equipment was assigned a value of 10.

15.1.3.1 Background Traffic Flows

A total of 3 no. locations on the TDR and general construction route are included in the link capacity assessment, with the locations shown in Figure 15-2b of Appendix 15-1. The source of the traffic data is set out in Table 15-2.

Base year traffic volumes for the 3 no. link locations shown in Figure 15-2b of Appendix 15-1 range from 11,695 vehicles per day on the N56 National Road between Mountcharles and Drimark, to 8,474 vehicles per day on the N56 National Road to the north of Donegal Town, to 8,508 vehicles on the N15 National Road in the proximity of the Wind Farm Site entrance, as set out in Table 15-3.

A full listing of the traffic counts data is included as Appendix 15-3.

Table 15-2 Count locations and data source

Link	Data source
1 – N56 National Road between Mountcharles and Drimark	Automatic traffic counter (TII) – year 2025
2 – N56 National Road north of Donegal	Automatic traffic counter (TII) – year 2025
3 – N15 National Road between Donegal and Ballybofey	Automatic traffic counter (TII) – year 2025

Table 15-3 All day traffic flows by location, year 2025 (2-way vehicles)

Link	2025
1 – N56 National Road between Mountcharles and Drimark	11,695
2 – N56 National Road north of Donegal	8,474
3 – N15 National Road between Donegal and Ballybofey	8,508

15.1.3.2 Background Traffic Volumes for the Adopted Construction Year 2028

This section describes the process adopted to produce background traffic forecasts for an assumed construction year of 2028.

Revised guidelines for forecasting annual growth in traffic volumes were produced by TII in October 2021, as set out by county in the ‘*Project Appraisal Guidelines for National Roads* (Unit 5.3)’. The annual growth rates for light vehicles for County Donegal, and factors for the years relevant to this study, are shown in Table 15-4 and Table 15-5. Based on a medium growth scenario, traffic volumes are forecast to increase during the period from 2025 to 2028 by 3.4%. All day traffic flows on the study area network are compared for the years 2025 and 2028 in Table 15-6.

It should be noted that while the assumed construction year of 2028 may vary slightly, this will not alter the forecast outcomes and effects presented in this section of the EIAR. This is due to the annual growth rate for background traffic being just 1.11% (as shown as 1.0111 in Table 15-4) and the traffic volumes generated by the Prospective Development will remain unchanged regardless of construction year, as presented subsequently in Section 15.1.4.

Table 15-4 TII traffic growth forecasts, growth per annum and cumulative, County Donegal

Year	Light Vehicles – Annual Factor			Light Vehicles – Cumulative Factor		
	Low	Medium	High	Low	Medium	High
2025	1.0097	1.0111	1.0139	1.000	1.000	1.000
2026	1.0097	1.0111	1.0139	1.010	1.011	1.014
2027	1.0097	1.0111	1.0139	1.019	1.022	1.028
2028	1.0097	1.0111	1.0139	1.029	1.034	1.042
2029	1.0097	1.0111	1.0139	1.039	1.045	1.057
2030	1.0024	1.0039	1.0072	1.042	1.049	1.064

Table 15-5 TII traffic growth rates by growth scenario

Period	New Factors		
	Low	Medium	High
2025 – 2028	1.029	1.034	1.042

Table 15-6 All day traffic flows by location and year (2-way vehicles)

Link	Observed 2025	Forecast 2028
1 – N56 National Road between Mountcharles and Drimark	11,695	12,093
2 – N56 National Road north of Donegal	8,474	8,762
3 – N15 National Road between Donegal and Ballybofey	8,508	8,797

The traffic count data recorded at each location was also used to determine the existing percentage of HGVs on the delivery routes, as set out in Table 15-7. The figures show that the % of HGVs varies from 2.7% on the N56 National Road between Mountcharles and Drimark to 5.6% on the N15 National Road travelling towards the site respectively.

The construction year 2028 traffic flows discussed up to this point in terms of vehicles are split into vehicle type (HGVs and Cars/lgvs) and also presented in terms of PCUs in Table 15-7.

Table 15-7 All day flows, percentage HGVs and flows by vehicle type, year 2028.

Link	All day flow (vehs)	% HGV's	Vehicles		PCUs		
			HGVs	Cars / lgvs	HGVs	Cars / lgvs	Total
1 - N56 National Road between Mountcharles and Drimark	12,093	2.7%	327	11,766	784	11,766	12,550
2 - N56 National Road north of Donegal	8,762	4.2%	368	8,394	883	8,394	9,277
3 - N15 National Road between Donegal and Ballybofey	8,797	5.6%	493	8,305	1,182	8,305	9,487

15.1.4 Prospective Development Traffic Generation

15.1.4.1 Wind Farm Site Entrance Junction

The Wind Farm Site entrance junction off the N15 National Road is existing and was constructed in 2020. The design of the junction that will provide access to the Wind Farm Site is discussed in Section 15.1.9. The location of the entrance junction that will provide access to the Wind Farm Site is shown in Figure 15-1 of Appendix 15-1.

15.1.4.2 Prospective Development Trip Generation – During Construction

For the purpose of assessing the effects of traffic generated during the construction of the Prospective Development, the construction phase is in the following stages.

- Stage 1 – Completion of Prospective Development construction: groundworks, construction of temporary construction compounds, 5 remaining turbine foundations, met mast foundation, and internal electrical cabling.
- Stage 2 – Proposed turbine and met mast component delivery and construction.

For the purpose of the traffic impact assessment, projections based on trip generation data collected from other wind farm construction projects regarding the numbers of trips per quantum of material, the number of turbine component parts based on 19 no. turbines, the length of the construction phase and work periods etc. were made to inform the assessment. These projections allow for assessment using the precautionary principle but should not be inferred as prescriptive limitations to the construction phase. There are numerous variables which can affect a construction project programme, including weather. The construction phase of the Prospective Development will be carried out in accordance with the Construction Environment Management Plan (CEMP), included as Appendix 4-3 of this EIAR, which will be agreed, where required, with the relevant Local Authority.

While the construction period is estimated to be approximately 12 months, the shortest potential construction phase duration 8 months was assumed for the construction of the Prospective Development in order to test a precautionary scenario. The shortest construction period will give rise to higher volumes

of construction traffic using the public road network at any one time. The traffic generation estimates set out in the following paragraphs are based on a total construction period of 8 months or 170 working days, based on 255 working days per annum.

15.1.4.2.1 **Stage 1 – Site Preparation and Groundworks (concrete foundation pours = 5 days, general construction = 95 days)**

For assessment purposes, this stage of the Prospective Development, which includes the completion of the site preparation and ground works, construction of temporary construction compounds, the construction of the remaining 5 turbine foundations, met mast foundations, and internal electrical cabling is assumed to last a total of 100 days, during which a total of 2,371 deliveries will be made to the Site, as shown in Table 15-8. During this construction phase, there will be two distinct types of days with respect to trip generation.

A total of 5 working days will be used to pour the 5 concrete wind turbine foundations. Foundations will likely be poured one per day, with an estimated 70 concrete loads required for each turbine delivered to the Site over a 12-hour period, resulting in 6 HGV trips to and from the Site per hour. On the remaining 95 working days for this stage other general materials will be delivered to the Wind Farm Site.

The estimated additional daily traffic generated on the road network during these days are shown in Tables 15-9 and 15-10. The figures show that on the 5 working days that concrete will be delivered to the Site, an additional 336 two-way PCUs will travel on the network (comprising 70 two-way HGV trips with 2.4 PCUs per movement), as shown in Table 15-9. Similarly, on the 95 working days when other materials will be delivered to the Site, traffic volumes on the local network will increase by an average of 102 PCUs, as set out in Table 15-10.

Table 15-8 Trip generation - Stage 1 - Site preparation and groundworks – total loads – Prospective Development

Material	Total no. Truck Loads	Truck type
Wind Farm Site and BMEP Site		
Concrete	350	Trucks
Delivery and removal of plant	100	Large artic
Fencing & gates, geotextiles, drainage pipes	17	Large artic
Steel	7	Large artic
Ducting and cabling (internal)	3	Large artic
Refuelling for plant	14	Large artic
Aggregates imported	800	Trucks
Tree felling	1080	Large artic
Total	2,371	

Table 15-9 Trip generation - Stage 1 – Concrete foundation pouring – total movements and volumes per delivery day – Wind Farm Site

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	PCU Movements /day*	2- way PCUs/day
Concrete	350	Trucks	2.4	840	168.0	336.0
* Estimation based on 5 concrete pouring days						

Table 15-10 Trip generation - Stage 1 – Site preparation and groundworks – total movements and volumes per delivery day – Prospective Development

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	PCU Movements /day*	2-way PCUs/day
Wind Farm Site and BMEP Site						
Delivery and removal of plant	100	Large artic	2.4	240.0	2.53	5.05
Fencing & gates, geotextiles, drainage pipes	17	Large artic	2.4	40.8	0.43	0.86
Steel	7	Large artic	2.4	15.7	0.17	0.33
Ducting and cabling (internal)	3	Large artic	2.4	7.5	0.08	0.16
Refuelling for plant	14	Large artic	2.4	34.1	0.36	0.72
Aggregates imported	800	Trucks	2.4	1,920.0	20.21	40.42
Tree felling	1080	Large artic	2.4	2592.0	27.28	54.57
Total	2,021			4,850.1	51.05	102.11

15.1.4.2.2

Stage 2 – Turbine Construction (abnormal loads = 51 nights, smaller components = 19 days)

During the turbine construction stage, including delivery and assembly, there will be deliveries to the Wind Farm Site made by abnormally large vehicles, referred to in this section as *extended artics*, transporting the component parts of the turbines (nacelles, blades and towers). There will also be deliveries made by standard large HGVs, transporting cables, tools and smaller component parts. The types of load and associated numbers of trips made to the Wind Farm Site during the turbine construction period are shown in Table 15-11, which summarises that a total of 152 trips will be made to and from the Site by extended artics. These will be made in convoys of 3 vehicles delivered, with each of the 51 convoys delivered on 51 separate nights. A further 76 trips will be made by standard large articulated HGVs.

Table 15-11 Trip generation - Stage 2 - Wind turbine plant - total loads - Wind Farm Site

Material	Units	Quantity per Unit	Total Quantity	Quantity per Truck	Total Truck Loads	Truck type
Nacelle	19	1	19	1	19	Extended Artic
Blades	19	3	57	1	57	Extended Artic
Towers	19	4	76	1	76	Extended Artic
Sub total					152	
Transformer	19	1	19	1	19	Large Artic
Drive train and blade hub	19	1	19	1	19	Large Artic
Base and other deliveries	19	2	38	1	38	Large Artic
Sub total					76	
Total					228	

For the purposes of this assessment, it is estimated that the turbine delivery element will progress at the rate of 3 extended artic trips made by convoy to the Wind Farm Site on 5 days per week, which is a common delivery frequency for large turbine components from the port of entry to the Wind Farm Site. This will result in this stage taking 51 days spread over an 11-week period, with all deliveries made during the night.

On a further two working days per week, lasting for approximately 10 weeks, the remaining equipment required during this phase will be delivered to the Wind Farm Site. The additional traffic movements for these two types of days are summarised in Tables 15-12 and 15-13. In Table 15-12 a PCU equivalent value of 10 was allocated to each extended artic movement, resulting in an additional 60 PCUs on the study network on these 51 days, while an additional 19.2 PCUs are forecast to be on the network on 14 other days, as shown in Table 15-13, during the turbine construction phase.

Table 15-12 Trip generation - Stage 2 – Wind turbine plant, extended artic – total movements and volumes per delivery day – Wind Farm Site

Material	Units	Truck Type	PCU Value	Total PCUs	2-way PCUs/ day
Nacelle	1	Extended Artic	10	10.0	20.0
Blades	3	Extended Artic	10	30.0	60.0
Towers	4	Extended Artic	10	40.0	80.0
Total per turbine	8			80.0	160.0
Total per delivery day	3			30.0	60.0
* Estimation based on 3 abnormal sized loads being delivered per day on 5 days per week (total 152 loads will take 51 nights spread over 11 weeks)					

Table 15-13 Trip generation - Stage 2 – Wind turbine plant, standard artic HGVs - total movements and volumes per delivery day – Wind Farm Site

Material	Quantity per Unit	PCU Value	2-way PCUs / day
Transformer	1	2.4	4.8
Drive train and blade hub	1	2.4	4.8
Base & other deliveries	2	2.4	9.6
Total	4		19.2
* Estimation based on equipment for 2 turbines being moved per week spread over 2 days for 10 weeks			

15.1.4.2.3

Summary of construction days and trip generation

A summary of the 2-way delivery trips in terms of HGV PCUs that will be generated on the 4 typical delivery days, together with the duration in working days, is shown in Table 15-14.

Table 15-14 Summary of trip generation by delivery day and delivery route

Delivery day	2-way car PCUs	2-way HGV PCUs	2-way total PCUs	Days
Concrete foundation delivery days	70	336	406	5
General construction	70	102	172	95
Turbine delivery (abnormally sized loads)	45	60	105	51
Turbine delivery (standard HGVs)	45	19	64	19
Total				170

Construction Employee Traffic

During the construction of the Prospective Development, it is estimated that up to 70 jobs will be created. Of this total, it is estimated that up to 70 staff members will be employed at any one time during the site preparation and groundworks stage of construction, reducing to 45 staff members during the turbine construction stage. Based on a precautionary scenario that all staff will travel to / from the Site by car, with an average of 2 persons per car, then a total of 70 PCU movements (each trip is two way) will be added to the network during the groundworks stage of the Prospective Development, reducing to 45 PCU trips during the turbine construction stage.

15.1.4.3 Development Trip Generation – During Operation

There will be no staff permanently present on the Wind Farm Site once the Prospective Development is operational as it will be remotely monitored. The only traffic associated with the operational phase of the Prospective Development will be from maintenance personnel that will gain access to the Wind Farm Site via the existing Wind Farm Site entrance junction off the N15 National Road.

It is estimated that the traffic volumes that will be generated by the Prospective Development once it is operational will be minimal, with an estimated 1-2 trips per day. The impact on the network of these trips during the operational stage is discussed in Section 15.1.11.3 below.

15.1.4.4 Prospective Development Trip Generation – During Decommissioning

Traffic generation by the Prospective Development during decommissioning will be similar but significantly less than the trip generation estimates presented for the construction phase, as presented in Section 15.1.4.2 above. This is because much of the materials brought into the Wind Farm Site during construction will be left in-situ during the decommissioning stage. Please see Appendix 4-6 Decommissioning Plan for further detail.

15.1.5 Construction Traffic Vehicles

The delivery of turbine components including blades, tower sections and nacelles is a specialist operation due to the oversized loads involved. The blades are the longest turbine component and in the case of the Prospective Development blades up to 65.2m long have been considered for the purpose of this assessment.

The critical vehicles in terms of size and turning geometry requirements and used in the detailed route assessment discussed in Section 15.1.9 is the blade transporter vehicle, with the geometry of each shown in Figures 15-3 of Appendix 15-1.

The key dimensions are as follows:

Transport of Blades – Super Wing Carrier

Transport of Blades – Articulated HGV with 10m overhang of blade tip at rear

Total length of vehicle	71.2 m
Length of blade	65.2 m
Inner radius	28.0 m

The critical vehicles in terms of size and turning geometry requirements used in the detailed route assessment discussed in Section 15.1.8, is the blade transporter.

The vehicles used to transport the tower sections and the turbine nacelles will be shorter in length compared to the blade transporters.

All other vehicles requiring access to the Site will be standard HGVs and will be significantly smaller than the design test vehicles.

15.1.6 Traffic Effects During Construction, Operation and Decommissioning of the Prospective Development

As detailed below, transportation of large turbine components will be carried out at night when traffic is at its lightest, and in consultation with the relevant Roads Authorities and An Garda Síochána with deliveries accompanied by Garda escort.

It should be noted that for the purpose of the assessment all vehicles travelling to and from the Site have been assumed to do so from the TDR and delivery routes shown in Figure 15-1 of Appendix 15-1, and discussed in Section 15.1.2.

15.1.6.1 Effect on Link Flows – During Construction

Background traffic volumes and Prospective Development generated traffic volumes are shown for the 4 typical construction stage scenarios, discussed below and shown in Tables 15-15 to 15-18, with the forecast effects, in terms of the percentage increase in traffic flows in PCUs and the number of days affected, set out in Tables 15-19 to 15-22. As stated previously in this section the actual figures presented in the tables will be subject to change, however, they are considered a robust estimation of likely traffic volumes and effects.

In terms of daily traffic flows the potential effects may be summarised as follows:

Concrete foundation pouring days (5 days)

For 5 days when concrete is delivered to the Wind Farm Site for the construction of the remaining 5 turbine foundations via the identified construction delivery routes, on average an additional 406 PCUs will travel on the local highway network. This will result in a percentage increase in traffic volumes on the study network of between +3.2% to 4.4% on the N56 National Road (Links 1 and 2), to +4.3% on the N15 National Road (Link 3) travelling towards the site.

General construction (95 days)

On average an additional 172 PCUs will travel on the local highway network on these 95 days. This will result in a percentage increase in traffic volumes on the study network of between +1.4% to 1.9% on the N56 National Road (Links 1 and 2), and +1.8% on the N15 National Road (Link 3) travelling towards the Wind Farm Site and BMEP Site.

Turbine delivery (abnormally sized loads (51 days)

On the 51 nights that the abnormal loads carrying the large turbine components travel to the Wind Farm Site via the TDR an additional 105 PCUs will travel to/from the Site. This will result in a percentage increase in traffic volumes on the study network of between +0.8% to 1.1% on the N56 National Road (Links 1 and 2), and +1.1% on the N15 National Road (Link 3) travelling towards the Wind Farm Site.

Turbine delivery (standard HGVs) (19 days)

For 19 days when the delivery of smaller turbine components are made to the Wind Farm Site by standard HGVs, it is forecast that an additional 64 PCUs will travel to/from the Wind Farm Site via the TDR.

During this period it is determined that the additional traffic will result in an increase in traffic volumes ranging from +0.5% to 0.7% on the N56 National Road (Links 1 and 2), and +0.7% on the N15 National Road (Link 3) travelling towards the site.

Table 15-15 Daily traffic volumes on delivery route – background, Prospective Development traffic– concrete foundation delivery (PCUs)

Link	Background PCUs			Prospective Development PCUs			Total PCUs (Background + Prospective Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 – N56 National Road between Mountcharles and Drimark	11,766	784	12,550	70	336	406	11,836	1,120	12,956
2 – N56 National Road north of Donegal	8,394	883	9,277	70	336	406	8,464	1,219	9,683
3 – N15 National Road between Donegal and Ballybofey	8,305	1,182	9,487	70	336	406	8,375	1,518	9,893

Table 15-16 Daily traffic volumes on delivery route - background, Prospective Development traffic- general construction (PCUs)

Link	Background PCUs			Prospective Development PCUs			Total PCUs (Background + Prospective Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 - N56 National Road between Mountcharles and Drimark	11,766	784	12,550	70	102	172	11,836	886	12,722
2 - N56 National Road north of Donegal	8,394	883	9,277	70	102	172	8,464	985	9,449
3 - N15 National Road between Donegal and Ballybofey	8,305	1,182	9,487	70	102	172	8,375	1,284	9,659

Table 15-17 Daily traffic volumes on delivery route - background, Prospective Development traffic- turbine delivery abnormal loads (PCUs)

Link	Background PCUs			Prospective Development PCUs			Total PCUs (Background + Prospective Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 - N56 National Road between Mountcharles and Drimark	11,766	784	12,550	45	60	105	11,811	844	12,655
2 - N56 National Road north of Donegal	8,394	883	9,277	45	60	105	8,439	943	9,382
3 - N15 National Road between Donegal and Ballybofey	8,305	1,182	9,487	45	60	105	8,350	1,242	9,592

Table 15-18 Daily traffic volumes on delivery route - background, Prospective Development traffic- turbine delivery standard HGVs (PCUs)

Link	Background PCUs			Prospective Development PCUs			Total PCUs (Background + Prospective Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 - N56 National Road between Mountcharles and Drimark	11,766	784	12,550	45	19	64	11,811	803	12,614
2 - N56 National Road north of Donegal	8,394	883	9,277	45	19	64	8,439	902	9,341
3 - N15 National Road between Donegal and Ballybofey	8,305	1,182	9,487	45	19	64	8,350	1,201	9,551

Table 15-19 Summary daily effects of Prospective Development traffic - concrete foundation delivery - % increase and number of days

Link	Background	Prospective Development	Total	% increase	Estimated No. of days
1 - N56 National Road between Mountcharles and Drimark	12,550	406	12,956	3.2%	5
2 - N56 National Road north of Donegal	9,277	406	9,683	4.4%	5
3 - N15 National Road between Donegal and Ballybofey	9,487	406	9,893	4.3%	5

Table 15-20 Summary daily effects of Prospective Development traffic – general construction - % increase and number of days

Link	Background	Prospective Development	Total	% increase	Estimated No. of days
1 – N56 National Road between Mountcharles and Drimark	12,550	172	12,722	1.4%	95
2 – N56 National Road north of Donegal	9,277	172	9,449	1.9%	95
3 – N15 National Road between Donegal and Ballybofey	9,487	172	9,659	1.8%	95

Table 15-21 Summary daily effects of Prospective Development traffic – turbine delivery (abnormal loads) - % increase and number of days

Link	Background	Prospective Development	Total	% increase	Estimated No. of days
1 – N56 National Road between Mountcharles and Drimark	12,550	105	12,655	0.8%	51
2 – N56 National Road north of Donegal	9,277	105	9,382	1.1%	51
3 – N15 National Road between Donegal and Ballybofey	9,487	105	9,592	1.1%	51

Table 15-22 Summary daily effects of Prospective Development traffic – turbine delivery (standard HGVs) - % increase and number of days

Link	Background	Proposed Project	Total	% increase	Estimated No. of days
1 – N56 National Road between Mountcharles and Drimark	12,550	64	12,614	0.5%	19
2 – N56 National Road north of Donegal	9,277	64	9,341	0.7%	19
3 – N15 National Road between Donegal and Ballybofey	9,487	64	9,551	0.7%	19

15.1.6.2 Link Capacity Assessment

An assessment of the impact on link capacities in the study area was undertaken for the various construction stages as set out in Table 15-23, Table 15-24 and Table 15-24. The capacity for each link in the study area is shown in Table 15-23. The capacities for the three links (two on the N56 National Road and one on the N15 National Road) on the TDR is 11,600 vehicles per day based on road widths and capacities set out in the TII Standards document DN-GEO-03031 Road Link Design, Table 6/1. It is noted that the link capacities adopted from the TII guidelines correspond to a Level of Service D, which the guidelines describe as being the level where;

“Speeds begin to decline slightly with a slight increase of flows and density begins to increase somewhat more quickly. Freedom to manoeuvre within the traffic streams is more noticeably limited, and the driver experiences reduced comfort levels”.

Background, or do-nothing traffic flows, are compared to flows forecast for the various construction delivery stages of the Prospective Development in Table 15-24 with the percentage capacity reached for each link and stage shown in Table 15-25. Based on this assessment the following points are noted;

- The N56 National Road between Mountcharles and Drimark (Link 1) is the busiest road with the link capacity forecast to operate slightly over capacity at 108% for the do-nothing scenario, increasing to a maximum of 112% during the 5 days that the concrete foundations will be poured, reducing to a maximum of 110%, or +2% points, during the remainder of the construction period.
- The N56 National Road north of Donegal Town (Link 2) and the N15 National Road approaching the site (Link 3) are forecast to operate within capacity for all scenarios in the proposed construction year of 2028 for the Prospective Development.

Based on this assessment it is concluded that the impacts on link capacity during the construction of the Prospective Development will be negative, temporary and slight in terms of severity.

Table 15-23 Delivery routes link type and link capacity (at Level of Service D)

Link	Link type	Link capacity (Level of Service D)
1 - N56 National Road between Mountcharles and Drimark	Type 1 Single	11,600
2 - N56 National Road north of Donegal	Type 1 Single	11,600
3 - N15 National Road between Donegal and Ballybofey	Type 1 Single	11,600

Table 1.5-24 Delivery route link capacity and summary of link flows by construction delivery day

Link	Link capacity (Level of Service D)	Construction delivery day				
		Background traffic	Concrete foundation construction	General construction	Turbine delivery (abnormal loads)	Turbine delivery (standard HGVs)
1 – N56 National Road between Mountcharles and Drimark	11,600	12,550	12,956	12,722	12,655	12,614
2 – N56 National Road north of Donegal	11,600	9,277	9,683	9,449	9,382	9,341
3 – N15 National Road between Donegal and Ballybofey	11,600	9,487	9,893	9,659	9,592	9,551

Table 1.5-25 Delivery route link capacity and % of link capacity by construction delivery day

Link	Link capacity (Level of Service D)	Construction delivery day				
		Background traffic	Concrete foundation construction	General construction	Turbine delivery (abnormal loads)	Turbine delivery (standard HGVs)
1 – N56 National Road between Mountcharles and Drimark	11,600	108%	112%	110%	109%	109%
2 – N56 National Road north of Donegal	11,600	80%	83%	81%	81%	81%
3 – N15 National Road between Donegal and Ballybofey	11,600	82%	85%	83%	83%	82%

15.1.6.3 Effect on Link Flows – During Operation

Once the Prospective Development is operational it is estimated that there will be 1-2 trips per day accessing the Wind Farm Site each day via the Wind Farm Site entrance off the N15 National Road. It is considered that the traffic impact during this phase will be imperceptible. Once operational the BMEP Site will generate a small number of trips periodically (approximately 2 trips per day), with the impacts also forecast to be imperceptible. The Grid Connection Site typically will not generate any additional traffic in the unlikely event that repairs are required.

15.1.6.4 Effect on Junctions – During Construction

The junction most affected on the identified delivery routes will be the existing Wind Farm Site entrance junction off the N15 National Road providing access to the Wind Farm Site. For this reason, a detailed junction capacity test was undertaken for this junction, as discussed below.

Junction capacity tests were undertaken using the industry standard junction simulation software PICADY, which permits the capacity of any junction to be assessed with respect to existing or forecast traffic movements and volumes for a given time period. The capacity for each movement possible at the junction being assessed is determined from geometric data input into the program with the output used in the assessment as follows:

- › Queue – This is the average queue forecast for each movement and is useful to ensure that queues will not interfere with adjacent junctions.
- › Degree of Saturation or Ratio of Flow to Capacity (% Sat or RFC) – As suggested, this offers a measure of the amount of available capacity being utilised for each movement. Ideally each movement should operate at a level of no greater than 85% of capacity, in accordance with TII requirements.
- › Delay – Output in minutes, this gives an indication of the forecast average delay during the time period modelled for each movement.

15.1.6.4.1 Scenarios Modelled

The greatest effect in terms of traffic will be experienced during peak hours when, during peak construction periods, approximately 70 workers (35 cars) will pass through it. It is assumed that deliveries of materials to the Wind Farm Site will take place during the day after the workers have arrived, and before they leave at the end of the day and will therefore not occur at the same time. In order to test a precautionary scenario however, the test is based on staff traffic travelling to and from the site during the AM and PM peak hours, with the maximum number of concrete deliveries occurring in one hour also travelling in and out of the junction.

15.1.6.4.2 N15 National Road / Access Junction Capacity Test Results

The AM and PM peak hour traffic flows for the base year 2025 and the proposed construction year of 2028 are shown in Figures 15-4a and 15-4b of Appendix 15-1 respectively. The additional traffic movements that are forecast to be generated by construction workers are shown in Figure 15-4c of Appendix 15-1, and the traffic flows generated by concrete deliveries are shown in Figures 15-4d (HGVs) and Figure 15-4e (PCUs) of Appendix 15-1. The year 2028 traffic flows forecast through the junction for the AM and PM peak hours with all potential construction traffic in place, and used for the junction capacity tests, are shown in Figure 15-4f of Appendix 15-1.

The results of the junction capacity tests are shown in Table 15-26. As there are no turning movements at this junction without traffic generated by the Prospective Development there is no Do Nothing scenario in this case. The results show the additional trip passing through the junction will have a slight effect on the operation of the junction, with a maximum forecast ratio of flow to capacity (RFC) of 12.3%, which is forecast to apply to the exit from the site onto the N15 National Road during the PM peak hour. The assessment shows that the junction is forecast to operate well within the acceptable limit of 85% as specified by TII in the Traffic and Transport Assessment Guidelines.

Table 15-26 Junction capacity test results, N15 National Road / Wind Farm Site Access Junction, AM and PM peak hours, with construction traffic, by time period, year 2028.

Period	Movement	With construction traffic		
AM		RFC	Queue (vehicles)	Delay (minutes)
	From Wind Farm Site entrance	3.4%	0.03	0.14
	Right turn into Wind Farm Site entrance	6.4%	0.10	0.12
PM		RFC	Queue (vehicles)	Delay (minutes)
	From Wind Farm Site entrance	12.3%	0.14	0.16
	Right turn into Wind Farm Site entrance	2.1%	0.03	0.09

15.1.6.4.3 **Effect on Junctions – During Operation**

As discussed in Section 15.1.13.3, it is forecast that once operational, the Prospective Development is expected to generate 1 to 2 trips per day. It is therefore concluded that the Prospective Development will have an imperceptible effect on the local network once constructed.

15.1.7 **Traffic Management of Large Deliveries**

Traffic management measures include the following:

- › Identification of a delivery schedule,
- › Details of the alterations required to the infrastructure identified in this report and any other minor alteration identified (hedgerows etc),
- › A dry run of the route using vehicles with similar dimensions.

The transport of large components is challenging and can only be done following extensive route selection, route proofing and consultation with An Garda Síochána, the local authority and its road section and roads authorities. Turbine components are usually transported at night when traffic is lightest and this is done in consultation with the road's authorities, An Garda Síochána Traffic Corp and special permits are generally required.

In some cases, minor accommodation works are required along the turbine delivery route such as hedge or tree cutting, temporary relocation of powerlines/poles, lampposts, signage and local road widening. Any upgrades to the public road network will be carried out in advance of turbine deliveries and following consultation and agreement with the relevant authorities. It is not anticipated that any sections of the local road network will be closed during the delivery of the abnormally sized loads.

Refer also to Appendix 15-2 of this EIAR, for the Traffic Management Plan.

15.1.8 Abnormal Load Route Assessment

The point of arrival for the wind farm plant is the Port of Killybegs in County Donegal, with the TDR shown between the Port and the Wind Farm Site in Figure 15-1 of Appendix 15-1.

A detailed route assessment was undertaken of the TDR with a swept path analysis of the turning requirements of the blade transport vehicles undertaken at all potential pinch points on the route as indicated in Figure 15-2a of Appendix 15-1. For these locations road and junction alignments based on topographical surveys or aerial /OS mapping were used for the assessment. In addition to the assessment discussed below, in line with best practice, it is recommended that a dry-run assessment is undertaken prior to construction.

The locations discussed are as follows:

- › Location 1 – Bend on N56 National Road east of Straleeney
- › Location 2 – Bend on N56 National Road north of Castlereagh
- › Location 3 – Bend on N56 National Road through Bruckless
- › Location 4 – Bend on N56 National Road east of Bruckless
- › Location 5 – Bend on N56 National Road between Bruckless and Beaugreen
- › Location 6 – Bend on N56 National Road west side of Dunkineely
- › Location 7 – Bend on N56 National Road east side of Dunkineely
- › Location 8 – N56 National Road / R925 Regional Road roundabout
- › Location 9 – N15 National Road Drumlonagher roundabout
- › Location 10 – Existing Wind Farm Site entrance junction on N15 National Road

External Route Killybegs to N15 National Road

Location 1 – Bend on N56 National Road east of Straleeney

The swept path analysis undertaken for this location, as shown in Figure 15-5 of Appendix 15-1 demonstrates that the existing geometry will accommodate the proposed turbine vehicles.

Location 2 – Bend on N56 National Road north of Castlereagh

The swept path analysis undertaken for this location, as shown in Figure 15-6 of Appendix 15-1 demonstrates that the existing geometry will accommodate the proposed turbine vehicles.

Location 3 – Bend on N56 National Road through Bruckless

As indicated in Figure 15-7 of Appendix 15-1, the assessment shows that the existing bend through Bruckless will accommodate the proposed turbine vehicles.

Location 4 – Bend on N56 National Road east of Bruckless

This location has undergone recent improvement works and the swept path analysis shown in Figure 15-8 of Appendix 15-1 demonstrates that the improved alignment will accommodate the proposed turbine vehicles.

Location 5 – Bend on N56 National Road between Bruckless and Beaugreen

The assessment shown in Figure 15-9 of Appendix 15-1 indicates that the blade will require to overhang the carriageway edge and boundary on the western side of the National Road, and minor overhang of the body of the blade of the carriageway edge will take place on the northeast corner, although this should will impact on the boundary. The assessment shows that the vehicle wheels will be accommodated within the existing carriageway. As is the case for all pinch points on the TDR, a ‘dry run’ will be undertaken by the selected turbine manufacturer prior to the delivery stage.

Locations 6 and 7 – Bends on N56 National Road west and east sides of Dunkineely

As indicated in Figures 15-10 and 15-11 of Appendix 15-1 the assessment shows that the existing bends on the west and east sides of Dunkineely will accommodate the proposed turbine vehicles.

Locations 8 and 9 – N56 National Road / R925 Regional Road roundabout & N15 National Road Drumlonagher Roundabout

The swept path analysis undertaken for the 2 roundabouts either side of Donegal Town, as set out in Figures 15-12 and 15-13 of Appendix 15-1, show that both roundabouts will accommodate the proposed turbine vehicle, with minor overhang and oversail required only.

15.1.9 Wind Farm Site Entrance Junction

Location 10 – N15 National Road / Wind Farm Site entrance road junction

The N15 National Road / Wind Farm Site entrance road junction is shown in Figure 15-14 of Appendix 15-1. The existing hardcore area for the Wind Farm Site entrance road is shaded in light blue and accommodated the abnormally sized turbine components already delivered to the site. It is proposed that this area will be retained for the delivery phase of the abnormally sized loads for the Prospective Development.

On the completion of the construction phase for the Prospective Development, it is proposed that the junction will be reinstated to the original site access.

The required visibility splays along the N15 National Road for the 100 kph speed limit, are 215 metres taken from a setback of 3 metres, as required by the TII guideline Geometric Design of Junctions, DN-GEO-03060, TII, as shown in Figure 15-15 of Appendix 15-1. While the full splay is available to the northeast, remedial works will be required, including the alteration of an existing wall, in order that the full splay is available to the southwest.

The vertical cross section shown in Figure 15-16 of Appendix 15-1 shows that to the northeast the vertical alignment taken from a subject height of 1.05 meters to the same object height is clear up to the required distance of 215m, in accordance with revised objects heights specified by Transport Infrastructure Ireland (TII) in Rural Road Link Design DN-GEO-03031. To the southwest the vertical curvature on the N15 National Road results in the minimum object height of 1.05 metres being visible up to a distance of 180 metres, with an object height of 1.5m being visible at a point 215 metres away. This is considered acceptable and within limits of acceptable relaxations of standards as set out by the TII in Section 4.4 of DN-GEO-03031.

An autotrack assessment for the blade transporter negotiating the existing junction is shown in Figure 15-17 of Appendix 15-1. While the proposed junction layout that will be in place once the Prospective Development is operational will generally provide for light goods vehicles only, Figure 15-18 of Appendix 15-1 demonstrates that the junction will provide for a large standard articulated HGV when required.

Site Entrance on the N15 National Road in the context of the Spatial Planning and National Roads, Guidelines for Planning Authorities

The site entrance located on the N15 National Road is the existing Wind Farm Site entrance that is proposed to be retained for the construction phase of the Prospective Development and modified for the operation phase, as discussed above. As this site entrance is located on the N15 National Road, the Spatial Planning and National Roads Guidelines for Planning Authorities (NRA, now TII, January 2012), apply to this proposed site entrance. The site entrance is situated in the 100 km/h zone and therefore the following policies of the guidelines must be considered:

'2.5 Required Development Plan Policy on Access to National Roads Lands adjoining National Roads to which speed limits greater than 60 km/h apply: - The policy of the planning authority will be to avoid the creation of any additional access point from new development or the

generation of increased traffic from existing accesses to national roads to which speed limits greater than 60 km/h apply. This provision applies to all categories of development, including individual houses in rural areas, regardless of the housing circumstances of the applicant.’

It is also, however, noted that Policy 2.6 of the guidelines sets out exceptional circumstances where a less restrictive approach may be applied:

‘in the case of developments of national and regional strategic importance which by their nature are most appropriately located outside urban areas, and where the locations concerned have specific characteristics that make them particularly suitable for the developments proposed.’

The guidelines provide a list of matters to be accounted for when considering whether exceptional circumstances apply, of which it is considered the following apply to the existing Wind Farm Site entrance on the N15 National Road:

- › (3) The nature of proposed development and the volume of traffic to be generated by it ;– It is established that the traffic volumes that will be generated during the construction stage of the Prospective Development will be relatively low and that the junction will operate with significant spare capacity during the busiest construction days (as set out in Section 15.1.4 and 15.1.6) of this EIAR. Furthermore, it is forecast that very low numbers of trips will be generated through the junction when operational (as set out in Section 15.1.4).
- › (4) Any implications for the safety, capacity and efficient operation of national Roads: – It is demonstrated in Section 15.1.9 of this report that the proposed junction is designed in accordance with TII Guidelines with the availability of visibility splays and forward visibility appropriate for the 100 km/h speed limit.
- › (6) The suitability of the location compared to alternative locations; - It is considered that this location is the optimum access point off the N15 National Road to gain access to the Wind Farm Site.

15.1.10 Provision for Sustainable Modes of Travel

15.1.10.1 Walking and Cycling

The provision for these modes is not relevant during the construction stage of the Prospective Development as travel distances will likely exclude any employees walking or cycling to work.

15.1.10.2 Public Transport

A review of the TFI's Regional Transport Map of August 2025 indicates that the following bus services operate on the N15 National Road between Donegal Town and Ballybofey and therefore pass the existing Wind Farm Site entrance junction;

- › Service No 64 – Galway to Derry (5 per day)
- › Service No 264 – Ballyshannon to Letterkenny (1 per day)
- › Service No 480 – Sligo to Derry (4 per day)

While these services pass the existing Wind Farm Site entrance located off the N15 National Road the service frequencies, together with the requirement to cross the N15 National Road at a location where a 100 kph speed limit applies, would indicate that this mode of transport is not an option for construction staff to access the Wind Farm Site. The provision of minibuses will be considered for transporting staff to and from the Wind Farm Site in order to minimise traffic generation and parking demand.

15.1.11 Likely and Significant Effects and Associated Mitigation Measures

15.1.11.1 ‘Do-Nothing’ Scenario

If the Prospective Development does not proceed there will be no additional traffic generated or works carried out on the road network and therefore no effects with respect to traffic.

If the Prospective Development were not to proceed, the opportunity to capture part of County Donegal’s valuable renewable energy resource would be lost, as would the opportunity to contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions.

Furthermore, as this application includes a Biodiversity Management and Enhancement Plan (BMEP) (Appendix 6-4) to be implemented during the development’s operation, the opportunity to enhance the Site for biodiversity, at a local scale, would also be lost.

15.1.11.2 Construction Phase: Traffic and Transport

15.1.11.2.1 Prospective Development

Concrete foundation pouring days (5 days)

For 5 days when concrete is delivered to the Wind Farm Site for the construction of the remaining 5 turbine foundations via the identified construction delivery routes, on average an additional 406 PCUs will travel on the local highway network. This will result in a percentage increase in traffic volumes on the study network of between +3.2% to 4.4% on the N56 National Road (Links 1 and 2), to +4.3% on the N15 National Road (Link 3) travelling towards the site. ***It is forecast that this will have a temporary, slight, negative effect on existing traffic on the delivery routes and at the existing Wind Farm Site entrance junction off the N15 National Road. There will be No Significant Effects.***

General construction (95 days)

On average an additional 172 PCUs will travel on the local highway network on these 95 days. This will result in a percentage increase in traffic volumes on the study network of between +1.4% to 1.9% on the N56 National Road (Links 1 and 2), and +1.8% on the N15 National Road (Link 3) travelling towards the Site. ***It is forecast that this will have a temporary, slight, negative effect on existing traffic on the delivery routes and at the existing Wind Farm Site entrance junction off the N15 National Road. There will be No Significant Effects.***

Turbine delivery (abnormally sized loads (51 days)

On the 51 nights that the abnormal loads carrying the large turbine components travel to the Wind Farm Site via the TDR an additional 105 PCUs will travel to/from the Wind Farm Site. This will result in a percentage increase in traffic volumes on the study network of between +0.8% to 1.1% on the N56 National Road (Links 1 and 2), and +1.1% on the N15 (Link 3) travelling towards the site. ***It is forecast that this will have a temporary, slight, negative effect on existing traffic on the delivery routes and at the existing Wind Farm Site entrance junction off the N15 National Road. There will be No Significant Effects.***

Turbine delivery (standard HGVs) (19 days)

For 19 days when the delivery of smaller turbine components are made to the Wind Farm Site by standard HGVs, it is forecast that an additional 64 PCUs will travel to/from the Wind Farm Site via the TDR.

During this period, it is determined that the additional traffic will result in an increase in traffic volumes ranging from +0.5% to 0.7% on the N56 National Road (Links 1 and 2), and +0.7% on the National Road (Link 3) travelling towards the site. ***It is forecast that this will have a temporary, slight, negative effect on existing traffic on the delivery routes and at the existing Wind Farm Site entrance junction off the National Road. There will be No Significant Effects.***

It is forecast that there will be no significant traffic related effects during the construction of the Prospective Development.

15.1.11.3 Operational Phase: Traffic and Transport

The impacts on the surrounding local highway network resulting from the Prospective Development will be negligible given that there will only be an average of approximately 1 to 2 trips made to the Wind Farm Site by car or light goods vehicle per day. Once operational the BMEP Site will generate a small number of trips periodically (approximately 6 trips per year), with the impacts also forecast to be imperceptible. The Grid Connection Site will typically not generate any additional traffic in the unlikely event that repairs are required. The effects of the maintenance traffic on the surrounding highway network will therefore be imperceptible, negative and long term. There will be No Significant Effects.

15.1.11.4 Decommissioning Phase: Traffic and Transport

The proposed turbines are expected to have a lifespan of greater than 25 years. Following the end of the 25 year permission period, the wind turbines operational period may be extended or replaced with new turbines, subject to planning permission being obtained, or the proposed turbines may be decommissioned fully.

Any impact and consequential effect that occurs during the decommissioning phase will be similar to that which occurs during part of the construction phase when turbines were being erected. The impacts and associated effects will be materially less than during the construction phase as significant ground works are not required to decommission a wind farm.

Following decommissioning of the Prospective Development turbine foundations will be rehabilitated, i.e. left in place, covered over with local soil/subsoil and allowed to re-vegetate naturally, if required. The internal site access tracks will be left in place, as they will be in use for purposes other than the operation of the wind farm. It is considered that leaving these areas in-situ will cause less environmental damage than removing and recycling them.

While the actual number of loads that will be required to remove materials from the Wind Farm Site in the event that the wind farm is decommissioned has not been determined at this stage, the impact in terms of traffic volumes will be significantly less than during the construction stage.

The works required during the decommissioning phase are described in Chapter 4: Description of the Prospective Development of this EIAR and the accompanying Decommissioning Plan included as Appendix 4-6 of this EIAR.

15.1.11.5 Mitigation Measures

This section summarises the mitigation measures to minimise the effects of the Prospective Development during both the construction stage and the operational stage. The decommissioning stage will be the same as for the construction stage.

15.1.11.5.1 Mitigation by Design

Mitigation by design measures include the following:

- › Selection of the most appropriate delivery route to transport the wind turbine components, requiring the minimum remedial works to accommodate the vehicles as set out in Section 15.1.2.2.

- › Use of on-site borrow pits to produce materials to minimise deliveries to site during construction.
- › The management of peat and spoil within the Wind Farm Site to minimise transport of material off-site.

15.1.11.5.2

Mitigation Measures During the Construction Phase

The successful completion of the Prospective Development will require significant coordination and planning, and it is therefore recommended that the following comprehensive set of mitigation measures will be put in place before and during the construction stage in order to minimise the effects of the additional traffic generated by the Prospective Development.

Delivery of abnormal sized loads

The following are the main points to note for these deliveries which will take place after peak evening traffic:

- › The delivery of turbine components is a specialist transport operation with the transportation of components carried out at night when traffic is at its lightest and the impact minimised.
- › The deliveries will be made in consultation with the Local Authority and An Garda Síochána.
- › It is estimated that 153 abnormal sized loads will be delivered to the Site, comprising 51 convoys of 3 vehicles, undertaken over 51 separate nights.
- › These nights will be spread out over an approximate period of 11 weeks and will be agreed in advance with the relevant authorities.
- › In order to manage each of the travelling convoys, for each there will be two Garda escort vehicles that will stop traffic when required at the front and rear of the convoy of 3 vehicles.
- › There will also be two escort vehicles provided by the haulage company for each convoy.

Other traffic management measures

The **Traffic Management Plan (TMP)** will be provided specifying details relating to traffic management and included in the CEMP prior to the commencement of the construction phase of the Prospective Development. The TMP will be agreed with the local authority and An Garda Síochána prior to construction works commencing onsite. The detailed TMP will include the following:

- › **Traffic Management Coordinator** – a competent Traffic Management Co-ordinator will be appointed for the duration of the development, and this person will be the main point of contact for all matters relating to traffic management.
- › **Delivery Programme** – a programme of deliveries will be submitted to Donegal County Council in advance of deliveries of turbine components to the Wind Farm Site. Liaison with the relevant local authorities, TII and MMaRC and will be carried out where required regarding requirements such as delivery timetabling. The programme will ensure that deliveries are scheduled in order to minimise the demand on the local network and minimise the pressure on the access to the Wind Farm Site.
- › **Information to locals** – Locals in the area will be informed of any upcoming traffic related matters e.g. the delivery of turbine components at night, via letter drops and posters in public places. Information will include the contact details of the Project Co-ordinator, who will be the main point of contact for all queries from the public or local authority during normal working hours. An "out of hours" emergency number will also be provided.
- › **A Pre and Post Construction Condition Survey** – Where required by the local authority, a pre-condition survey of roads associated with the Prospective Development can be carried out immediately prior to construction commencement to record an accurate condition of the road at the time. A post construction survey will be carried out after works are completed to ensure that any remediation works are carried out to a

satisfactory standard. Where required the timing of these surveys will be agreed with the local authority. All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.

- › **Liaison with the relevant local authority** - Liaison with Donegal County Council and An Garda Síochána, will be carried out during the delivery phase of the large turbine vehicles, when an escort for all convoys will be required. Once the surveys have been carried out and “prior to commencement” status of the relevant roads established, (in compliance with the provisions of the CEMP), the Roads section will be informed of the relevant names and contact numbers for the Project Developer/Contractor Site Manager as well as the Site Environmental Manager.
- › **Implementation of temporary minor alterations to road network at critical junctions** - at locations highlighted in Section 15.1.8.
- › **Agreement of delivery routes** - These routes will be confirmed with Donegal County Council and adhered to by all contractors.
- › **Delivery times of large turbine components** - The TMP will include the option to deliver the large wind turbine plant components at night in order to minimise disruption to general traffic during the construction stage.
- › **Traffic management on L6554** - Temporary traffic management measures including signage and flagmen on short section of L6554 during tree felling associated with the BMEP.
- › **Travel plan for construction workers** - While the assessment above has assumed the worst case in that construction workers will drive to the Site, the construction company will be required to provide a travel plan for construction staff, which will include the identification of routes to / from the Site and identification of an area for parking.
- › **Additional measures** - Various additional measures will be put in place in order to minimise the effects of the development traffic on the surrounding road network including wheel washing facilities on site and sweeping / cleaning of local roads as required. These are set out in the CEMP which is contained in Appendix 4-3.
- › **Re-instatement works** - All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.

15.1.11.5.3 **Mitigation Measures During Operational Stage**

Due to the very low volumes of traffic forecast to be generated during this stage no mitigation measures are required.

15.1.11.5.4 **Mitigation Measures During Decommissioning Stage**

In the event that the Prospective Development is decommissioned after the 25 years of operation, a decommissioning plan, will be prepared for agreement with the local authority, as described in Chapter 4 of this EIAR and Appendix 4-6 Decommissioning Plan. This plan will include a material recycling / disposal and traffic management plan will be prepared for agreement with the local authority prior to decommissioning, in accordance with Scottish Natural Heritage report (SNH) *Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms* (SNH, 2013).

15.1.11.6 **Residual Effects**

15.1.11.6.1 **Construction Stage**

During the 12 month construction stage of the Prospective Development, it is forecasted that the additional traffic that will appear on the public road network serving the Wind Farm Site and BMEP Site will have a slight, short-term, negative effect on existing road users, which will be minimised with the implementation of the mitigation measures included in the Traffic Management Plan (TMP) included as Appendix 15-2. ***There will be no significant impacts.***

15.1.11.6.2 **Operational Stage**

The traffic impact of the Prospective Development will be imperceptible during the operational stage. The residual impacts will be imperceptible, long term and negative. ***There will be no significant impacts.***

15.1.11.6.3 **Decommissioning Stage**

As stated above, in the event that the Wind Farm Site is decommissioned, a decommissioning plan will be prepared and implemented in order to minimise the residual effects during this stage. The residual effect will be less than for the construction stage as set out above and will be an imperceptible to slight, negative, temporary effect. ***There will be no significant impacts.***

15.1.12 **Cumulative Effects – Prospective Development**

The extent of the study area of the traffic and transport cumulative impact assessment is based on the guidance set out in the Traffic and Transport Assessment Guidelines, PE-PDV-02045, May 2014, TII, which states that the assessment should include “*developments granted planning permission, but which are yet to become operational as well as any planning applications that have been submitted but have yet to be determined*”.

The same guidelines are referenced to determine which of the developments that fit the above criteria have to potential for cumulative effects with the Prospective Development, which is a function of the level of increase on traffic volumes that may be experienced on a common road network.

An assessment of all existing, permitted, and proposed projects was carried out for the potential for cumulative traffic and transport effects with the Prospective Development based on the following criteria;

- Project status (permitted, or proposed)
- Degree of overlap on the highway network (low to high)
- Traffic volumes (low to high).

A detailed list of all developments at varying stages in the development process (from pre-planning to operational), is set out in Appendix 2-1 of this EIAR. The developments included in the cumulative impact assessment are considered under the following groups;

- Other wind farms,
- Other applications in the Environmental Impact Assessment (EIA) process.
- Strategic Infrastructure Development (SID) applications made to An Coimisiún Pleanála.

15.1.12.1.1 **Other Wind Farms**

The other permitted and proposed wind farm developments within a 25 km buffer zone around the proposed turbines that were considered to have potential traffic related cumulative impacts are set out below in Table 15-27. Developments consisting of single domestic turbines have not been considered further in the cumulative assessment as the scale of construction traffic associated with these would be considered insignificant and therefore would not have a cumulative impact when associated with the Prospective Development.

As set out in Table 15-27 below, there are 9 wind farms within the cumulative study area that are currently being constructed (1), at pre-planning stage, (1), proposed (5) or permitted (2).

The Drumnahough Wind Farm is currently under construction and will be operational when the Prospective Development may be constructed and therefore will have no potential for cumulative impacts.

It is noted that the port of entry/exit for many of the remaining 8 wind farms will potentially be Killybegs, therefore, there is the potential that there could be cumulative impacts at the port and on the turbine

delivery routes in close proximity to the port, should the delivery of the turbines for one or more of these developments be done simultaneously. It is, however, the case that even if the port has the handling and storage capacity to provide for more than one of these developments at a time, typically the Garda would limit the delivery from the port to one convoy of 3 vehicles per night, so the cumulative impacts would not occur at this location.

Of the 8 remaining wind farm developments listed in Table 15-27, based on the criteria set out above (project status, overlap of delivery routes and traffic volumes) it is estimated that there are four with a low potential for cumulative impacts to occur with the Prospective Development, and four with a medium level of potential for cumulative impacts to occur.

In the event that the construction of the Prospective Development coincides with the construction phase of either of the 8 no. proposed/permitted wind farms, it is forecast that the traffic related cumulative impacts would be negative, short-term and slight, based on the potential overlap of TDRs and associated traffic generation. It is therefore proposed that the construction phase of the Prospective Development will be scheduled, where possible, to avoid the overlap of the construction phases of these proposed wind farm developments. This will ensure that the potential for cumulative effects is minimised.

Table 15-27 Summary of other wind farms considered in cumulative assessment and potential for cumulative traffic effects with Proposed Project

Project	Status	Degree of overlap of highway network (low / medium / high)	Traffic volumes (low / medium / high)	Potential cumulative traffic effects*
1 – Altgolan Wind Farm (5 turbines)	Proposed	Low	Low	Low
2 – Barnesmore Repowering (13 turbines)	Permitted	High	Medium	Medium
3 – Clunahill Wind Farm (6 turbines)	Pre-planning	Low	Medium	Low
4 – Crilly Wind Farm (4 turbines)	Permitted	Medium	Low	Low
5 – Drumnahough Wind Farm (12 turbines)	Under construction	High	Low – as will be constructed	Low – as will be constructed
6 – Gaffy Wind Park (8 turbines)	Proposed	High	Medium	Medium
7 – Meenakeeran Wind Farm (5 turbines)	Proposed	Low	High	Medium
8 – Meenamullan Wind Farm (6 turbines)	Proposed	Low	Medium	Low
9 – Pullytean Wind Farm (7 turbines)	Proposed	Medium	Medium	Medium

Other development applications in the Planning Process (with the local authorities and with ACP)

A planning search undertaken by MKO established a number of non-wind energy developments with the potential to give rise to cumulative effects in conjunction with the Prospective Development. All of these developments are set out in the cumulative assessment table included as Appendix 2-1. Of these

developments, all applications relating to small developments including single dwellings were excluded from the assessment on the basis of scale. In addition, all of the larger scale developments identified in the search are not anticipated to have overlapping construction phases, with most developments either being operational, or expected to be operational when the Proposed Project begins construction.

15.1.13 In-Cumulation Effects

This section considers the in-cumulation impact of the combination of the Existing Development and Prospective Development (the Subject Development). Since there is no temporal overlap between the traffic generated by the construction of the Existing Development and the construction, operation and decommissioning of the Prospective Development, there is no potential for in-cumulation effects from the Subject Development in terms of traffic and transportation.

15.1.14 Cumulative Effects – Subject Development

As there is no temporal overlap between the traffic and transport effects of the Prospective Development and Existing Development, there is no potential for in-cumulation effects of the Subject Development. The cumulative effects of the Subject Development are identical to the cumulative effects of the Prospective Development, as stated in section 15.1.12.

15.1.15 Transboundary Effects

The delivery routes for materials and equipment associated with the Existing Development did not cross into Northern Ireland. As such, there were no transboundary effects on traffic and transport.

The delivery routes for materials and equipment associated with the Prospective Development will not cross into Northern Ireland. Therefore, there is no potential for transboundary traffic and transport effects due to the Prospective Development

It is acknowledged that a small number of construction staff may have travelled, and my travel, from Northern Ireland but the number of trips generated would have been, and will be, small and the traffic and transport related effects imperceptible.

As such, there are no transboundary effects on traffic and transport associated with the Subject Development.

15.2 Telecommunications, Aviation, and Other Material Assets

15.2.1 Statement of Authority

This section of the EIAR has been prepared by Karen O'Neill and Robert Kennedy and was reviewed by Sean Creedon, all of MKO.

Karen O'Neill is a Project Environmental Scientist with MKO with over five years of experience in private consultancy. Karen holds a BA (Joint Hons) in Geography and Archaeology, and a MSc (Hons) in Environmental Science where she focused her studies on environmental and planning policy. Karen's key strengths and expertise are project management, report writing and review, and preparation of Environmental Impact Assessment Reports. Through previous roles, Karen has been involved as part of the project delivery team for a range of renewable energy infrastructure projects, including onshore and offshore wind energy developments, and multifaceted projects comprising wind energy, solar energy, battery storage and associated electrical infrastructure. Responsibilities for same included feasibility and constraints analysis, project management, draft and review of various EIAR chapters, mapping, and engagement with stakeholders.

Robert is a Project Environmental Scientist working as part of MKO's Renewables Team, with four years of experience in private consultancy. Robert holds a BSc in Environmental Biology and an MSc in Environmental Policy, both from University College Dublin. Robert's key strengths and areas of expertise are in project management, environmental impact assessment reporting, renewable energy, report writing, and research. Since joining MKO in 2022, Robert has worked with and coordinated large multi-disciplinary teams involved in the production of EIARs for large-scale renewable energy developments. Robert's experience spans a broad range of wind energy developments, including applications for new onshore and offshore wind farms, repowering and lifetime extension projects, and substitute consent. Robert also played a role in developing MKO's new service offering around Biodiversity Net Gain and other nature-positive mechanisms.

Sean Creedon is an Associate Director in the Environment Team at MKO. He leads a team of highly skilled environmental professionals working on EIAR for large-and medium scale Renewable Energy infrastructure. Sean has directed and overseen multiple renewable energy projects across wind, solar, battery, biogas and hydrogen as well as a range of thermal and other energy related developments. He has worked on the planning and environmental impact elements within all stages of wind farm project delivery. Sean's professional experience includes the development and management of a portfolio of wind farm developments to the consenting decision. He is a member of the MKO senior management team. Sean has over 24 years' experience in project development and holds an MSc from NUI Galway and a Diploma in Project Management from Institute of Project Management Ireland.

15.2.2 Telecommunications and Aviation

15.2.2.1 Introduction

This section of the EIAR assesses the likely significant effects of the Prospective Development on telecommunications and aviation assets.

The full description of the Prospective Development is provided in Chapter 4 Description of the Prospective Development of this EIAR.

Section 15.2.2.5 describes the way in which wind turbines can potentially interfere with telecommunications signals or aviation activities. Section 15.2.2.5 presents details on how such effects will be avoided, with the likely significant effects assessed (and mitigation measures proposed) in Section 15.2.2.6.

15.2.2.2 Methodology and Guidance

This section of the assessment focuses particularly on the scoping and consultation exercise conducted with telecommunications operators and aviation authorities. Telecommunications operators and aviation authorities were contacted in May 2025 in order to determine the presence of telecommunications links either traversing or in close proximity to the Wind Farm Site. Scoping was carried out in line with EPA, 2022, and the ‘*Best Practice Guidelines for the Irish Wind Energy Industry*’ (Irish Wind Energy Association, 2012)¹, which provides a recommended list of telecommunications operators for consultation. In addition to this, consultation was also carried out with the Commission for Communications Regulation (ComReg) in order to identify any other additional licensed operators in the vicinity of the Wind Farm Site to be contacted, who may not have been on the list of main operators.

A full description of the scoping and consultation exercise is provided in Section 2.9 of Chapter 2 Background to the Prospective Development. Consultation with the telecommunications operators and aviation bodies was carried out as part of the 2017 Meenbog Wind Farm planning application (ABP Ref: PA05E.300460), which also informed the May 2025 scoping effort. Consultation of existing and new operators and aviation bodies informed the constraints mapping process for the Prospective Development.

The assessment of likely significant effects on material assets uses the standard methodology and classification of impacts as presented in Section 1.7.2 of Chapter 1 Introduction of this EIAR.

15.2.2.3 Legislation, Policy and Guidance

This section has been carried out in accordance with the ‘EIA Directive’ as amended by Directive 2014/52/EU and having regard, where relevant, to guidance and policy documents listed below:

- Donegal County Council (DCC) (2024). County Donegal Development Plan 2024-2030;
- Guidelines on the Information to be contained in Environmental Impact Assessment Reports’ (EPA, 2022);
- Defence Forces Ireland (2014) *Draft Air Corps Wind Farm/Tall Structures Position Paper (August 2014)*;
- Department of Environment, Heritage and Local Government (2006) *Wind Energy Development Guidelines for Planning Authorities* (DoEHLG, 2006) (hereafter ‘the Guidelines (DoEHLG, 2006)’);
- Department of the Environment, Heritage and Local Government (2019) *Draft Revised Wind Energy Development Guidelines* (DoHPLG, 2019) (hereafter ‘the Draft Guidelines (DoHPLG, 2019)’);
- Irish Wind Energy Association (2012) *Best Practice Guidelines for the Irish Wind Energy Industry*;
- ESB Networks (2019) *Code of Practice for Avoiding Danger from Overhead Electricity Lines*;
- ESB (2017) *EMF & You: Information about Electric & Magnetic Fields and the electricity network in Ireland*;

15.2.2.4 Scoping and Consultation

As part of this EIAR scoping and consultation exercise, MKO contacted the relevant national and regional broadcasters, fixed and mobile telephone operators, aviation authorities and other relevant consultees between May 2025 and April 2026. Consultation was also carried out with the Commission for Communications Regulation (ComReg) in order to identify any other additional licensed operators in the vicinity of the Prospective Development to be contacted. ComReg responded to a scoping request from MKO on the 22nd of July 2025, providing a list of organisations and contacts who may be relevant for scoping.

¹ <https://windenergyireland.com/images/files/9660bdfb5a4f1d276f41ae9ab54e991bb600b7.pdf>

The responses received from the telecommunications and aviation consultees are summarised below in **Table 15-28**.

Table 15-28 Telecommunications and Aviation Scoping Responses

Consultee	Response	Potential for Interference Following Consultation Exercise
2m (RTE Transmission Network) RTÉ/Saorview	Received 27 th May 2025	One off air link between 2RN site at Truskmore Co. Sligo and Holywell Hill, Co. Donegal. However, there is no overlap between the first Fresnel Zone of this link and wind farm infrastructure. Standard Protocol Agreement required. Refer to Section 15.2.2.4.1 below.
AirNav (Original request for comment made on 27/05/2025, follow up requests made on 22/07/2025, 02/12/2025, 03/02/2026, and 26/03/2026)	No response received.	No response received.
Airwave	Received 22nd July 2025	No infrastructure in this area
AP Wireless	Received 06th June 2025	No interference noted
BAI	Received 27th May 2025	Same response as CnaM - They are not aware of any issues from existing windfarms or electrical substations into existing FM networks. Also, the proposed substation is not located close to any existing or planned FM transmission sites.
BBNet	No response received	No response received
Beat 102-103	No response received	No response received
BT	Received 22nd July 2025	BT Ireland no longer have a microwave network
City of Derry Airport	26th March 2026	Confirmed that CoDA will have no objection to this.
Coimisiún na Meán (CnaM)	Received 27th May 2025	They are not aware of any issues from existing windfarms or electrical substations into existing FM networks. Also, the proposed substation is not located close to any existing or planned FM transmission sites.
ComReg	Received 22nd July 2025	No detailed response. Provided a list of organisations and contacts that may be relevant. Included ComReg's map viewer tool which provides a full list of service providers, and identifies mobile operators within the relevant area.
Dense Air	No response received	No response received
Defence Forces	No response received	No response received

Consultee	Response	Potential for Interference Following Consultation Exercise
Dept. of Defence	Received 25th July 2025	Refer to Section 15.2.2.4.3 below.
Digital Forge	No response received	No response received
Digiweb/Viatel	No response received	No response received
Donegal Airport	25th March 2026	No comments to add.
Donegal County Council	Received 23rd July 2025	Link from the Lough Mourne Water Treatment plant at Meencrumlin, Expected to be retired by September 2025. UE may be installing a replacement link, this plant house is being transferred from DCC to UE ownership in the near future. Note: UE was contacted separately and this asset was not raised as a concern.
Eir	Received 29 th May 2025	No – buffer from nearby links requested. Refer to Section 15.2.2.4.2 below.
Enet	Received 27 th May 2025	Yes. Refer to Section 15.2.2.4.2 below.
ESB	10th April 2026	Asked for confirmation once planning application has been submitted.
FastCom	No response received	No response received
Hibernian Towers	Received 6th June 2025	No sites in Donegal
Highland Radio	No response received	No response received
IAA	Received 26th November 2025	Refer to Section 15.2.4.3 below.
Imagine Networks Services Ltd	Received 27 th May 2025	Imagine are in the process of decommissioning all their microwave links
IMS Connect	Received 27 th May 2025	Nothing of concern for them here.
Irish Rail/CIE	No response received	No response received

Consultee	Response	Potential for Interference Following Consultation Exercise
Ivertec	Received 27 th May 2025	This development will not impact their network.
Murray Group	Received 27 th May 2025	Do not have any telecoms installation in the affected area
NBI	Received 28 th May 2025	Not operating or have any current plans to operate radio links in, or through the proposed area
Ocean FM	No response received	No response received
Owenea FM	No response received	No response received
Pure Telecom	No response received	No response received
Radio Services	No response received	No response received
RTÉ Windfarms	Received 27 th May 2025	Same as 2RN - One off air link between 2RN site at Truskmore Co. Sligo and Holywell Hill, Co. Donegal. However, there is no overlap between the first Fresnel Zone of this link and wind farm infrastructure. Standard Protocol Agreement required. Refer to Section 15.2.2.4.1 below.
Tetra Ireland / Motorola Solutions	Received 9th September 2025	Anticipate no impact from the development as proposed
Three Ireland Ltd	Received 27th May 2025	Development won't have any effect on our transmission network in the area
Towercom	Received 06th June 2025	Towercom do not have any existing or planned links in this area.
Uisce Éireann	Received 06th June 2025	No potential interference noted
Virgin Media Ireland Ltd.	Received 27th May 2025	Virgin Media Ireland do not have any radio links in this area
Vodafone Ireland Ltd	Received 28 th May 2025	No – buffer from nearby links requested. Refer to Section 15.2.2.4.2 below.
Westnet	Received 27th May 2025	No equipment or plans in this area.
Whizzy Internet	No response received	No response received

The scoping responses from the telecommunications and aviation consultees are described below. Relevant copies of scoping responses are provided in Appendix 2-2. The locations of identified telecoms links and setbacks requested by providers is shown Figure 15-1, below.

15.2.2.4.1 **Broadcasters**

2rn (formerly RTÉ Transmission Network) is the primary provider of transmission services for digital terrestrial television and radio in Ireland.

RTE/2RN

RTÉ Transmission Network (2RN), replied on the 27th of May 2025 to a scoping request from MKO stating that they operate 1 no. off air link between their site at Truskmore, Co. Sligo and Holywell Hill, Co. Donegal. To avoid impacts, 2RN requested that the first Fresnel Zone be kept clear from any obstruction.

Furthermore, 2RN further stated that “*There is also the risk of interference to broadcast services from our site at Truskmore to viewers to the northeast of the proposed site. We would therefore ask that the protocol be signed between 2rn and the developer should the site go ahead.*”

A standard Protocol Document has been prepared by 2RN for the Prospective Development which has been signed by Planree Ltd. (the Applicant). A copy of the Protocol Document is presented in Appendix 15-4 of this EIAR. The standard Protocol Document ensures that in the event of any interference occurring to the transmission network television or radio reception due to operation of a wind farm, the required measures as set out in the Protocol Document, will be carried out by the developer to rectify this. The Protocol Document ensures that the appropriate mitigation is carried out in the event of any unanticipated broadcast interference arising to RTÉ television or radio reception as a result of the Prospective Development.

15.2.2.4.2 **Other Consultees**

Of the scoping responses received from telephone, broadband and other telecommunications operators, those who highlighted an initial potential interference risk are addressed below. The remaining consultees who responded to scoping operate links either outside the Prospective Development, and therefore are not subject to any interference risk, or do not operate any links in the area.

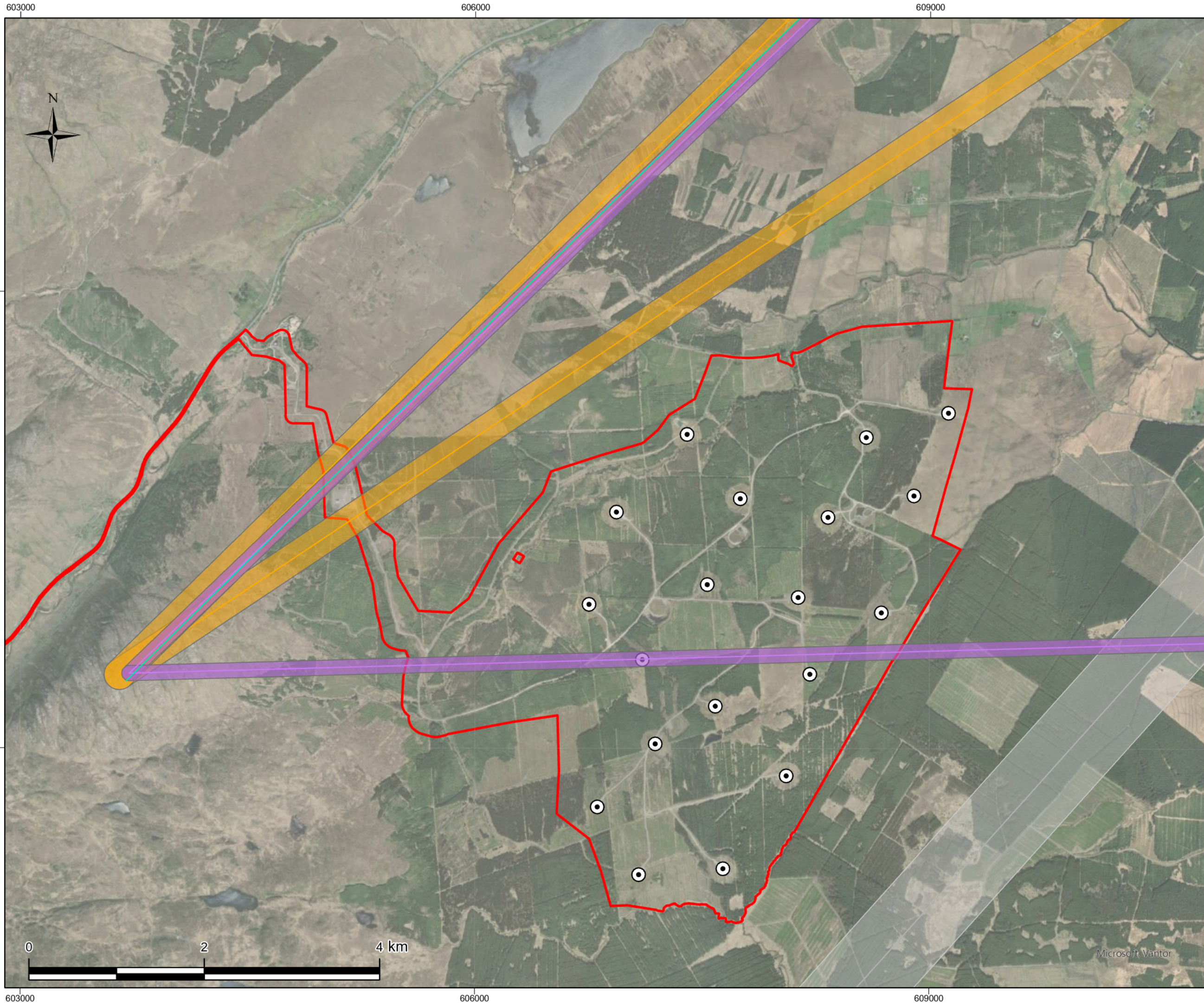
Enet

Enet responded to a scoping request from MKO on the 27th of May 2025, noting that they had 2 no. links in the vicinity of the Prospective Development. One of these links overlaps with the location of proposed turbine T08. MKO subsequently advised Enet of this potential constraint on the 21st of October 2025, and proposed a mitigation strategy. The Applicant and MKO suggested to relay the Enet link via the proposed onsite 80m met mast to ensure that the service between Barnsmore Gap and the single end user would not be impacted. Enet confirmed on 21st of October 2025 that the link in question is due for decommissioning within two years and is unlikely to be active at the time of the Prospective Development being commissioned. Notwithstanding, the proposed 80m onsite met mast has been positioned to allow the link to be rerouted, if necessary, and without being impacted by any other proposed turbines. This provides a suitable mitigation measure in the event that the Enet link remains active when the Prospective Development becomes operational. Enet did not raise any concerns with this mitigation strategy.

Eir

Eir responded to a scoping request from MKO on the 29th of May 2025, noting that they had 2 no. links in the area. Locations of the links were provided, and it was requested that turbines maintained a buffer of 100m radius away from the transmission paths. Constraints mapping determined that all of the turbine locations are outside the requested 100m buffer area. As such, no interference with Eir links will occur.

Vodafone responded to a scoping request from MKO on the 28th of May 2025, noting that they had 1 no. link in the vicinity of the Prospective Development. A clearance of 30m from the first Fresnel Zone was requested. Constraints mapping determined that there is no overlap with the proposed turbine locations, and therefore no interference with Vodafone links will occur.



- Map Legend
- Planning Application Boundary
 - Proposed Turbine Layout
 - Vodafone Link - no buffer requested
 - ENET Link
 - ENET 50m Buffer
 - Eir Link
 - Eir 100m Buffer
 - 2RN Link
 - 2RN 281m Buffer

Spatial Reference
Name: IREN95 Irish Transverse Mercator
Datum: IREN95
Projection: Transverse Mercator



SITE LOCATION - NOT TO SCALE

Drawing Title

Telecoms Links

Project Title		
Meenbog Wind Farm, Co. Donegal		
Project No.	Drawing No.	Scale
240505g	14-1	1:40,000
Drawn By	Checked By	Date
SOR	RK	01/07/2026



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15.2.2.4.3

Aviation

As noted in Table 15-28 Telecommunications and Aviation Scoping Responses, scoping responses were received from the following aviation consultees:

- › Irish Aviation Authority (IAA) and AirNav
- › Department of Defence (DoD)

Pertinent information has been summarised below, however the scoping response in Appendix 2-2 should be referenced to for further detail.

Irish Aviation Authority and AirNav

MKO contacted the IAA (the civil aviation regulator) and AirNav (the air navigation service provider of Ireland) in May 2025 as part of consultation with relevant national and regional broadcasters, fixed and mobile telephone operators, aviation authorities and other relevant consultees. There was no reply from the IAA or AirNav to these initial requests.

As part of MKO's scoping consultation process (further detailed in Section 2.9 of Chapter 2: Background to the Prospective Development of the EIAR), a Scoping Document was prepared and circulated to relevant consultees in November 2025, which included the IAA and AirNav.

Despite multiple follow-up emails, the latest as part of the March 2026 scoping exercise, no response has been received from AirNav to date.

The IAA responded to the Scoping Document on 26th of November 2025, noting that should a formal planning application be submitted, the IAA will likely offer the following general observations:

"In the event of planning consent being granted, the applicant should be conditioned to contact the Irish Aviation Authority to:

1. *agree an aeronautical obstacle warning light scheme for the wind turbine development,*
2. *provide as-constructed coordinates in WGS84 format together with ground and tip height elevations at each wind turbine location and*
3. *notify the Authority of intention to commence crane operations with at least 30 days prior notification of their erection."*

Department of Defence

The DoD was contacted by MKO in May 2025. A scoping response was received on the 25th of July 2025, in which the DoD made the following observations:

"As a matter of practice, the Department of Defence does not provide observations or advice in the scoping process, except where the relevant parties have been directed by a planning authority to seek the Department's views.

Having consulted with the Military authorities, the Department of Defence wishes to make the following observations:

- › *The N15 route is identified as an Irish Air Corps low level route. The location of structures higher than 45m above ground within 3NM of the route centreline of low level routes should be considered.*
- › *The cumulative effect of renewable energy developments has the potential to impede the Irish Air Corps operability.*

Nothing in the above observations shall be taken as a binding response by the Minister for Defence in the event that a planning application is made."

The DoD response indicated that the N15 route is identified as an Irish Air Corps low level route, and states that “the location of structures higher than 45m above ground within 3NM (c. 5.6km) of the route centreline of low-level routes should be considered.” This route is used for operational training and accessing regional areas. A low-level route is a designated, non-segregated, Class G airspace corridor, where specific types of aircraft conduct mandatory operational and tactical training. The nearest turbine to the N15 national road is T14, which is approximately 2.7km from the road corridor. As part of the scoping exercise undertaken for the 2017 EIAR, the DoD were contacted by MKO. A response received from the DoD in relation to this scoping request stated the following:

“The Air Corps have now advised that they will stand by their previous observations from 2015 ‘Given that the western cluster of 26 turbines (hereafter referred to as Site 1) are elevated and are shielded by the natural geographical feature of Barnesmore Gap, Site 1 will NOT greatly impact Air Corps operations, although it is technically inside our 3 NM requirements.’ it is considered that the Wind Farm Site is elevated and shielded by the natural geographical feature of Barnesmore Gap, and so will not have a significant impact on Air Corps operations.”

The proposed turbine locations for the Prospective Development are unchanged from the turbine location submitted in the 2017 Meenbog Wind Farm planning application. Therefore, whilst the proposed turbines are higher than 45m above ground and within 3NM (c. 5.6km) of the N15 low-level flight route, the consideration provided previously by the DoD confirms that the Prospective Development will not have a significant impact on Air Corps operations.

15.2.2.5 Background

15.2.2.5.1 Broadcast Communications

Wind turbines, like all large structures, have the potential to interfere with broadcast signals, by acting as a physical barrier or causing a degree of scattering to microwave links. The most significant effect at a domestic level relates to a possible flicker effect caused by the moving rotor, effecting, for example, radio signals. The most significant potential effect occurs where there are proposed wind turbines directly in line with the transmitter radio path.

15.2.2.5.2 Domestic Receivers

Depending on local topography, a domestic receiver may receive broadcast signals from more than one location. The strength of the signals varies with distance from the transmitter, and the receiver’s antenna is generally always directed towards the most local, and usually strongest, broadcasting station.

There are two types of potential electromagnetic interference to domestic receivers depending on the location of the receiver in relation to a wind farm. ‘Shadowed’ houses are located directly behind a wind farm, relative to the location from where the signal is being received. In this case, the main signal passes through the wind farm and the rotating blades can create a degree of signal scattering. In the case of viewers located beside the wind farm (relative to the broadcast signal direction), the effects are likely to be due to periodic reflections from the blade, giving rise to a delayed signal.

In both cases, i.e., shadowed houses located behind the wind farm and those located to the side of it, the effects of electromagnetic interference may depend to some degree on the wind direction, since the plane of rotation of the rotor will affect both the line-of-sight blockage to viewers located behind the wind farm and the degree of reflection to receivers located to the side.

15.2.2.5.3 Other Signal Types

Wind turbines have the potential to affect other signal types used for communication and navigational systems, for example tower-to-tower microwave communication links, and airborne and ground radar systems. Interference with radar systems occurs when wind turbines are located close to an airport or directly in line with the instrument landing approach. The nearest operational airport is Donegal Airport located approx. 43km northwest of the Wind Farm Site and the nearest operational airfield is Finner Camp which is located approx. 32.7km southwest of the Wind Farm Site. The closest large international

airport is Belfast Airport which is located over 105km east of the Site, with Knock Airport located 107km south-west of the Wind Farm Site.

All airports listed above are outside the range at which such issues would be expected, and as detailed in Table 15-28, the Irish Aviation Authority (IAA) was contacted and noted that Air Nav Ireland has responsibility for the maintenance and safeguarding of en-route communications and navigation surveillance equipment in Ireland. The IAA did not raise any issues with the Prospective Development however they issued general observations as discussed in Section 15.2.2.4.3. AirNav was contacted via email in May 2025 and followed up with in July 2025, December 2025 and March 2026, however no response was received.

15.2.2.5.4 **Preventing Electromagnetic Interference**

Both the Guidelines (DoEHLG, 2006) and the Draft Guidelines (DoHPLG, 2019) state that interference with broadcast communications can be overcome by the installation of deflectors or repeaters where required.

Developers are advised to contact individual local and national broadcasters and mobile phone operators to inform them of proposals to develop wind farms. This consultation has been carried out by MKO as part of the assessment of the Prospective Development as summarised in Table 15-28; full details are provided in Section 2.9 in Chapter 2 (Background to the Prospective Development) of this EIAR.

15.2.2.5.5 **ESB (2017) EMF & You: Information about Electric & Magnetic Fields and the electricity network in Ireland'**

Electric and Magnetic Fields occur both naturally and from man-made sources. All electricity, both natural and man-made, produces two types of fields: electric fields and magnetic fields which are referred to as EMF. Two types of technology can be used to transmit electricity, alternating current (AC) and direct current (DC). Both AC and DC power lines produce electric and magnetic fields. AC lines produce AC electric and magnetic fields and DC lines produce static electric and magnetic fields. ESB Networks transmission and distribution networks are AC systems. Please see Figure 15-2 reproduced from the 2017 ESB information booklet which demonstrates the alternating magnetic field of AC overhead lines and underground cables. As can be seen in Figure 15-2 below, EMF from 110kV overhead lines and underground cables diminishes quickly with distance from the potential impacted receptor, with EMF from underground 110kV cables, diminishing from 4µT to 0.5µT at 10m away from the cable, reducing to almost 0µT at 20m.

Figure 15-2 Illustrates the magnetic field from overhead AC lines operating in Ireland

THE EFFECT OF DISTANCE ON MAGNETIC FIELDS

Both AC and DC technologies produce magnetic fields and both decrease with distance as you move away from the line or cable. See graph below:

AC LINES AND CABLES

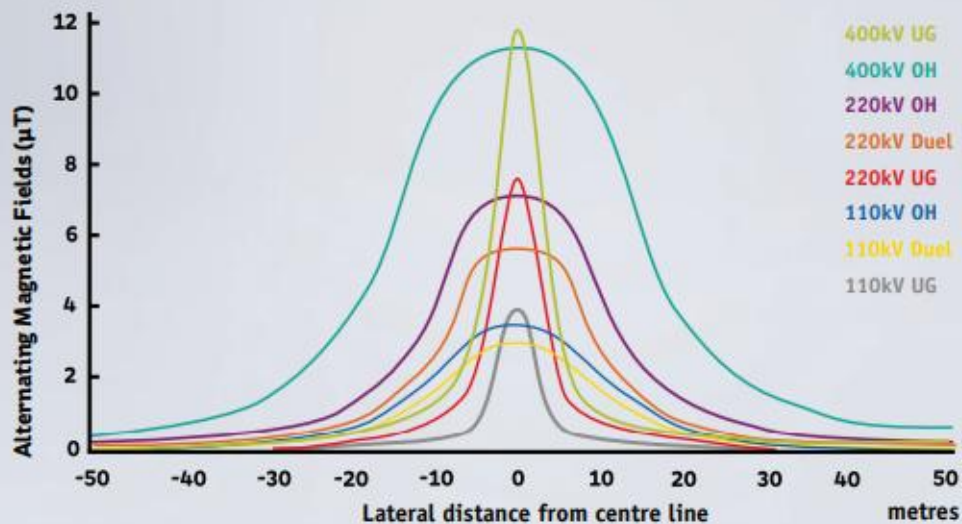


Figure C illustrates the magnetic field from overhead AC lines operating in Ireland. The field strength decreases with distance. The fields from these AC lines are far below the 1998 ICNIRP Guidelines for exposure to AC magnetic fields (100μT). In 2010 ICNIRP updated its ELF-EMF guidelines, which included the recommendation for a 200μT reference level for exposure for the general public, but these have not yet been adopted by the European Union.

15.2.2.5.6

Aviation

The Draft Guidelines (DoHPLG, 2019) note that wind turbines or any structure exceeding 90 metres (m) in height are considered obstacles to aerial navigation and need to be shown on aviation charts. Contact with the Irish Aviation Authority (IAA) is advised at the pre-planning stage of consultation to ensure that a proposed wind farm will not cause difficulties with air navigation safety, including airports, radar and aircraft guidance systems.

In addition, the Irish Air Corps (IAC) drafted the ‘*Air Corps Wind Farm/Tall Structures Position Paper*’ in 2014 (hereafter referred to as the IAC Position Paper), with the intent of ensuring IAC operations and training may be accomplished in a safe and economical manner, relevant aerodromes remain viable for air traffic, the ability to train military flying skills is protected and vital navigation routes are protected to safeguard the ability of the IAC to fulfil its role.

In line with the above, the IAC notes they are opposed to any wind farms or tall structures in the following areas:

- Lands underlying military airspace used for flying activity, including designated Military Operation Areas (MOA);
- Areas wherein military flying occurs at low levels; and
- Critical low-level routes in support of IAC operational requirements.

The IAC Position Paper also notes that in all locations where wind farms or masts are permitted, they should be illuminated by high intensity strobe lights, be identifiable hazards relative to additional lighting in the vicinity and remain visible to night vision equipment.

Following the guidance above, consultation with the IAA and the Department of Defence (DoD) has been carried out by MKO as part of the assessment of the Prospective Development as summarised in Table 15-28; full details are provided in Section 2.9 in Chapter 2 (Background to the Prospective Development) of this EIAR.

15.2.2.6 Likely Significant Effects and Associated Mitigation Measures

15.2.2.6.1 ‘Do-Nothing’ Scenario

If the Prospective Development were not to proceed, the Existing Development will remain in-situ as an unauthorised and partially completed wind farm, which is, in effect, the “Do-Nothing” option insofar as it represents the current situation as at the date of the application for Substitute Consent. As such, there would be no change to existing telecommunications and aviation operations in the area.

If the Prospective Development were not to proceed, the opportunity to capture a significant part of the country’s renewable energy resource by completing the Meenbog Wind Farm would be lost, as would the opportunity to contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. The opportunity to generate local employment, local authority development contributions, rates and investment in the local area would also be lost. Furthermore, the opportunity to implement the proposed biodiversity enhancement measures within the site would be lost.

Furthermore, the opportunity to capture an even greater part of County Donegal’s valuable renewable energy resource would be lost, as would the opportunity to further contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions.

Furthermore, as this application includes a Biodiversity Management and Enhancement Plan (BMEP) (Appendix 6-4) to be implemented as part of the Prospective Development, the opportunity to enhance biodiversity, at a local scale, would also be lost.

15.2.2.6.2 Construction Phase

The potential for electromagnetic interference from proposed turbines may only occur during the operational phase of the Prospective Development. There are no electromagnetic interference impacts for telecommunications and aviation assets or operations associated with the construction phase of the Prospective Development, and therefore no mitigation is required.

Potential impacts during turbine erection and commissioning of the Prospective Development are assessed in the operational phase impact assessment (Section 15.2.2.6.3 below).

15.2.2.6.3 Operational Phase

Telecommunications

Pre-Mitigation Impact

Consultation regarding the potential for electromagnetic interference from the Prospective Development was carried out with the relevant national and regional broadcasters, fixed line and mobile telephone operators and other operators, which confirmed that no turbines are proposed within the areas requested to be left clear of turbines.

As outlined in Section 15.2.2.4.2, Enet currently have one link which passes through the Site, having potential to be impacted by T08. However, Enet confirmed that this link is due to be decommissioned within two years (i.e. by 2027).

Mitigation Measures

In the event of interference occurring to telecommunications, the Guidelines (DoEHLG, 2006) acknowledge that *‘electromagnetic interference can be overcome’* by the use of divertor relay links out of line with a wind farm.

A signed Protocol Agreement between 2RN and the Applicant can be found in Appendix 15-4. The Protocol Agreement ensures that in the event of any interference occurring to television or radio reception due to operation of the Prospective Development, the required measures, as set out in the Protocol Agreement, will be carried out by the Applicant to rectify this. The Protocol Agreement ensures that the appropriate mitigation is carried out in the event of unanticipated broadcast interference arising to television or radio reception as a result of the Prospective Development.

As outlined above, it is expected that the Enet link that would be impacted by the Wind Farm Site will be decommissioned within the next two years and should therefore not be impacted by the operation of the Prospective Development. Notwithstanding, the proposed 80m onsite met mast has been positioned to allow the link to be rerouted, if necessary, and without being impacted by any other proposed turbines. This provides a suitable mitigation measure in the event that the Enet link remains active when the Prospective Development becomes operational.

Residual Effect

The Prospective Development will have an imperceptible residual effect that is Not Significant on the telecommunications signals of any operator, due to the distance from, or absence of, any links in the area.

Significance of Effect

There will be no significant effect on telecommunications as a result of the operational phase of the Prospective Development.

Aviation

Pre-Mitigation Impact

Irish Aviation Authority

There are no IAA assets within the Wind Farm Site or surrounds that may be impacted by the proposed turbines.

Department of Defence

The DoD response indicated that the N15 route is identified as an Irish Air Corps low level route, and states that *“the location of structures higher than 45m above ground within 3NM (c. 5.6km) of the route centreline of low-level routes should be considered.”* This route is used for operational training and accessing regional areas. A low-level route is a designated, non-segregated, Class G airspace corridor, where specific types of aircraft conduct mandatory operational and tactical training. The nearest turbine to the N15 national road is T14, which is approximately 2.7km from the road corridor. As part of the scoping exercise undertaken for the 2017 EIAR, the DoD were contacted by MKO. A response received from the DoD in relation to this scoping request stated the following:

“The Air Corps have now advised that they will stand by their previous observations from 2015 ‘Given that the western cluster of 26 turbines (hereafter referred to as Site 1) are elevated and are shielded by the natural geographical feature of Barnesmore Gap, Site 1 will NOT greatly impact Air Corps operations, although it is technically inside our 3 NM requirements.’ it is considered that the Wind Farm Site is elevated and shielded by the natural geographical feature of Barnesmore Gap, and so will not have a significant impact on Air Corps operations.”

The proposed turbine locations for the Prospective Development are unchanged from the turbine location submitted in the 2017 EIAR. Therefore, whilst the proposed turbines are higher than 45m above ground and within 3NM (c. 5.6km) of the N15 low-level flight route, the consideration provided previously by the DoD confirms that the Prospective Development will not have a significant impact on Air Corps operations.

Mitigation Measures

None Proposed.

As no potential impacts were identified by the IAA or DoD, no mitigation measures are required. However, the following standard IAA and DoD requests will be complied with should the Prospective Development be consented:

Irish Aviation Authority

1. Agree an aeronautical obstacle warning light scheme for the wind farm development;
2. Provide as-constructed coordinates in WGS84 format together with ground and blade tip height elevations at each wind turbine location; and
3. Notify the Authority of intention to commence crane operations with at least 30 days prior notification of their erection.

Department of Defence

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

Residual Effect

With the implementation of the above mitigation measures, the Prospective Development will have a long-term imperceptible neutral residual effect on aviation assets which is Not Significant.

Significance of Effects

There will be no significant effects on aviation operations as a result the operational phase of the Prospective Development.

15.2.2.6.4 **Decommissioning Phase**

As stated in Section 15.2.2.6.2 above, the potential for electromagnetic interference from proposed turbines may only occur during the operational phase of the Prospective Development. There are no electromagnetic interference impacts associated with the construction or decommissioning phases of the Prospective Development, and therefore no mitigation required.

15.2.3 Other Material Assets

15.2.3.1 Introduction

This section of the Material Assets chapter considers other utilities or built services in the area such as electricity supply and transmission, water, gas, railways and underground telecommunications. This section also considers waste management during the construction, operational and decommissioning phases of the Prospective Development.

15.2.3.2 Methodology and Guidance

The methodology for this assessment includes:

- › Legislation, policy and guidance review;
- › Scoping exercise with stakeholders;
- › Desk study: baseline information gathering including review of available maps and published information followed by mapping of constraints;
- › Impact assessment

15.2.3.3 Legislation, Policy and Guidance

This impact assessment follows the overall methodology and guidance relating to EIA as set out in Section 1.2 and Section 1.7.2 of Chapter 1 of the EIAR, and has regard, where relevant, to guidance and policy documents listed below:

- › Waste Management:
 - Waste Framework Directive (2008/98/EU), as amended by Directive (EU) 2018/851.
 - Waste Management Acts 1996 to 2016, as amended.
 - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011), as amended.
 - EPA (2021) Best Practice Guidelines for the Preparation of Resources & Waste Management Plans for Construction and Demolition Projects.
 - IEMA (March 2020) Guide to Materials and Waste in Environmental Impact Assessment.
 - EPA (2020) Guidance on Waste Acceptance Criteria at Soil Recovery Facilities
 - EPA (2020) By-Product – Guidance Note, A Guide to By-products and Submitting a By-product Notification Under Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No 126 of 2011).
 - EPA (2019) Guidance on Stone and Soil By-Products in the context of Article 27 of the European Communities (Waste Directive) Regulations 2011.
 - TII (2017) The Management of Waste from National Road Construction Projects, GE-ENV01101
 - Government of Ireland (2020) Environmental Protection Agency (2021) National Hazardous Waste Management Plan 2021-2027

15.2.3.4 Scoping and Consultation

In order to assess the potential for significant effects on built services and waste management in the vicinity of the Prospective Development, scoping requests were made to EirGrid, Uisce Éireann, Gas Networks Ireland, and numerous sections of Donegal County Council, including the Roads Department and Environment Department.

Scoping was carried out for the Subject Development in line with the EPA, 2022, and the ‘*Best Practice Guidelines for the Irish Wind Energy Industry*’ (Irish Wind Energy Association, 2012) which provides a

recommended list of telecommunications operators for consultation. Refer to Section 2.8 of Chapter 2: Background, of this EIAR for details in relation to the EIA scoping exercise.

No scoping response was received from the Water department of Donegal County Council. A scoping response was received from Uisce Éireann as detailed below (Section 15.2.3.4.1). A scoping and consultation exercise was conducted with utilities operators, as outlined in Section 15.2.3.4.1 below. A full description of the scoping and consultation exercise is provided in Section 2.9 of Chapter 2 Background to the Prospective Development of this EIAR.

15.2.3.4.1 **Utilities**

Commission for Regulation of Utilities, Water and Energy (CRU)

A scoping request was sent to the CRU on the 5th September 2025, however no response was received. A follow-up email was sent on the 25th of March 2026, however no response has been received to date.

ESB

A scoping request was issued to ESB on the 27th May and again on the 22nd July 2025. A follow up scoping request was issued on 25th March 2026 to which the following response was received;

‘Sent to the relevant teams to review and respond directly should the need arise.’

No further response has been received to date.

EirGrid

A scoping request was issued to EirGrid on 5th September 2025. An additional scoping request was issued on 25th March 2026. Eirgrid responded on 25th March 2026 and provided a link to the Eirgrid Electricity transmission Infrastructure Development² which informs on Eirgrid’s Engagement Protocol for UGC cables in public roads. In addition, a document was attached which was

‘issued by the RMO to County Councils. It was issued to EirGrid for information and has had no input from us nor ESB’.

The response also included a reference to the EirGrid Powering Up the North West programme, which includes the Clogher-Srananagh project³.

Uisce Éireann

A scoping request was sent to Uisce Éireann on the 5th of September 2025. A response was received on the 6th of October 2025 identifying key risks to be addressed within the EIAR such as impacts to water sources, hydrological pathways and surface water runoff. Uisce Éireann states that they do not permit building over their assets or any works which would disrupt their infrastructure, and outline that if the project is likely to affect Uisce Éireann assets the developer will need to enter into a diversion’s agreement prior to construction. Section 15.2.3.6.4 below addresses water supply infrastructure present in the vicinity of the Site. For further detail on impacts to water sources, hydrological pathways and surface water runoff see Chapter 9: Hydrology and Hydrogeology of this EIAR.

Gas Networks Ireland (GNI)

GNI supply MKO with their latest infrastructure data quarterly. The latest data share illustrating all GNI infrastructure was provided to MKO in November 2025. The data indicates that there is no GNI infrastructure is located within or adjacent to the Wind Farm Site. Data for Northern Ireland is not as readily available, however the pipeline map⁴ available from Gas Networks Ireland shows that the nearest

² [Electricity-Transmission-Infrastructure-Development-Roads-Sector-Engagement-Framework.pdf](#)

³ <https://www.eirgrid.ie/northwest>

⁴ <https://www.gasnetworks.ie/about/what-we-do/pipeline-map>

gas infrastructure within Northern Ireland is in Strabane, located approximately 27km from the Wind Farm Site.

15.2.3.4.2 **Other**

Department of the Climate, Energy and the Environment

A scoping request was sent to the Department of Climate, Energy and the Environment (DCEE) on the 5th of May 2025. No direct response from DCEE has been received to date, however, a submission on behalf of Geological Survey Ireland, a division of the DCEE, was received on the 10th of September 2025 recommending the use of their various data sets when conducting the EIAR, SEA, planning and scoping processes for developments, plans and policies. No information in relation to Material Assets was provided within the received response.

Donegal County Council

A scoping request was sent to the Water Department of Donegal County Council. No response has been received to date.

Córas Iompair Éireann (CIE)

A scoping request was issued to CIE on the 30th March 2026 in relating to the Grid Connection which crossed under a disused Irish Rail line. No response has been received to date.

15.2.3.5 **Desk Study**

In addition to the legislation, policy and guidance listed in section 15.3.4 and information gathered through the scoping exercise, relevant data and information pertaining to the Site was collated from the following sources:

- › Base mapping (OSI and Google Earth imagery).
- › Existing EirGrid data purchased by Project Team.
- › Environmental Protection Agency (EPA) website.
- › GSI Map viewer for public water supply information.
- › ComReg Siteviewer (<https://siteviewer.comreg.ie/#/mobile-masts>).
- › Open Infrastructure Map (<https://openinframap.org/#13.55/54.71933/-7.91589>)
- › Local Authority Waste Facility Register (<https://facilityregister.nwcpo.ie/>)
- › 2019 Construction Environment Management Plan (Appendix 4-4 of the rEIAR).
- › Waste Management Plan Logs for the Existing Development.
- › Pre-construction utilities and topographical surveys (including ground penetration radar [GPR] undertaken prior to the construction of the Existing Development.

15.2.3.6 **Baseline Environment**

15.2.3.6.1 **Existing and Built Services and Utilities**

The Prospective Development has been designed to avoid identified services and utilities where possible. Prior to commencement of construction detailed site investigations will be carried out to confirm design assumptions and undertake additional surveys to identify any new services and utilities and ensure they will not be impacted by the Prospective Development.

15.2.3.6.2 **Electricity**

Grid Infrastructure

There are no 110kV or 38kV overhead electricity lines within or adjacent to the BMEP Site.

There is one existing 110kV overhead line that crosses the Site at the main Wind Farm Site entrance. The 110kV overhead line will not be affected by any of the Prospective Development infrastructure at any point.

It is intended to connect the proposed turbines to the national grid via the existing onsite 110kV substation located within the Wind Farm Site. The onsite 110kV substation is connected via underground cable along the N15 national road, local roads, and agricultural fields to the existing 110kV Clogher Substation in the townland of Cullionboy, Co. Donegal. There are five existing 110kV and two 38kV overhead lines that cross the Grid Connection Site. The Grid Connection passes under the 38kV and 110kV overhead electricity lines in the townlands of Meenbog, Croaghonagh, Cashelnavean, Tawnawully Mountains, Friarsbush, Ardinawark, Keadew Upper, Keadew Lower and Cullionboy.

15.2.3.6.3 **Gas**

A data request was sent to Gas Networks Ireland in 2025. The data returned in November 2025 concluded there are no gas pipelines within or near the Site.

15.2.3.6.4 **Water**

A data request was sent to Uisce Éireann in April 2026. The data provided included the water distribution network and sewerage network in the vicinity of the Site. The data return concluded that there are no underground water or sewerage networks within the Wind Farm Site or BMEP Site.

There is a water mains pipeline, including several associated hydrants and valves, that runs along a section of the N15, within the Grid Connection Site. This pipeline begins at Biddys O'Barnes pub at Barnesmore Gap and runs within/parallel to the N15 national road in a south-westerly direction where it re-routes off the N15 onto the L-2595 local road toward Clogher Substation. Along the L-2695 there is a stop-valve and water pipe 'junction' where a different section of pipeline begins and continues along the L2595 in a southerly direction, passing the junction leading to Clogher Substation.

Regarding groundwater resources, the Geographical Survey Ireland do not map the presence of any National Federation registered Group Water Schemes (GWS) or Public Water Schemes (PWS) or an associated Source Protection Area (SPA) within the Site or in the surrounding lands. A search of private well locations (accuracy of 1 – 50 m only) was undertaken using the GSI well database (www.gsi.ie). The GSI database recorded no wells within the Site. The closest well is approximately 16.5 m east of the Grid Connection Site.

Regarding Surface Water Quality, there are no mapped Drinking Water Protected Areas (DWPA) within or immediately downstream of the Site. The closest DWPA is Cullionboy Lough (EU Code: IE_NW_37_210) located approximately 350 m southwest of the Grid Connection route. DCC abstract water from the Bunadaowen River within the Site and pump it to Lough Mourne Reservoir (EU Code: IE_NW_01_104), approximately 1.7 km to the north. In the Donegal Bay North Catchment, the Eske_020 River Water Body (RWB) (EU Code: IE_NW_37E050400) upstream of Donegal Town and downstream of Lough Eske is listed as a DWPA, located approximately 4.5 km southwest of the Site. Further detail on the impact assessment and mitigation measures of these water resources is provided in Chapter 9: Hydrology and Hydrogeology, of this EIAR.

15.2.3.6.5 **Motorways**

The Prospective Development will not interfere with or traverse any motorways within or surrounding the Wind Farm Site and BMEP Site. Traffic and Transport impacts are assessed fully in Section 15.1.

15.2.3.6.6 **Railways**

There are no known railways within the BMEP Site or the Grid Connection Site.

There is one disused railway line that crosses the Site at the main Wind Farm Site entrance. The railway line once ran between Donegal-Stranorlar but officially ceased all operations in 1959. This railway line intersects the Wind Farm Site Access track on which minor works and upgrades are proposed.

15.2.3.6.7 **Waste Management Services**

There are no EPA-licensed or local authority-authorised waste facilities or activities located within the Site. The nearest licensed waste facility to the Site is Ballynacarrick Landfill Site, located approximately 16km to the southwest of the Wind Farm Site.

A Waste Management Plan (WMP) has been prepared and forms part of the Construction and Environmental Management Plan (CEMP) in Appendix 4-3 of the EIAR.

The WMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of construction of the Prospective Development. Disposal of waste will be a last resort.

All waste generated onsite during the construction phase will be contained in a waste skip at a waste storage area onsite. This waste storage area will be kept tidy with a skip clearly labelled to indicate the allowable material to be disposed of therein. The expected waste volumes generated onsite are unlikely to be large enough to warrant source segregation at the Prospective Development. Therefore, all waste streams generated onsite will be deposited into a single waste skip. The waste material will be transferred to a Materials Recovery Facility (MRF) by a fully licenced waste contractor where the waste will be sorted into individual waste stream for recycling, recovery or disposal.

Site personnel will be instructed at induction that under no circumstances can waste be brought onsite for disposal in the onsite waste skip. It will also be made clear that the burning of waste material onsite is forbidden.

Further details on waste management are presented in the CEMP which is included as Appendix 4-3.

It is not anticipated that any significant volume of waste will be generated within the Wind Farm Site during the operational phase of the Prospective Development as only a small number of operational and maintenance personnel will be present within the Prospective Development at certain times. Any waste generated due to the operation and maintenance of the Prospective Development will be disposed of in a covered skip. The waste material will be transferred to a MRF by a fully licenced waste contractor where the waste will be sorted into individual waste stream for recycling, recovery or disposal.

15.2.3.7 **Likely Significant Effects and Associated Mitigation Measures**

15.2.3.7.1 **‘Do-Nothing’ Scenario**

If the Prospective Development were not to proceed, the Existing Development will remain in-situ as an unauthorised and partially completed wind farm, which is, in effect, the “Do-Nothing” option insofar as it represents the current situation as at the date of the application for Substitute Consent. As such, there would be no change to existing telecommunications and aviation operations in the area.

If the Prospective Development were not to proceed, the opportunity to capture a significant part of the country’s renewable energy resource by completing the Meenbog Wind Farm would be lost, as would the opportunity to contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. The opportunity to generate local employment, local authority development contributions, rates and investment in the local area would also be lost. Furthermore, the opportunity to implement the proposed biodiversity enhancement measures within the site would be lost.

Furthermore, the opportunity to capture an even greater part of County Donegal’s valuable renewable energy resource would be lost, as would the opportunity to further contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions.

Furthermore, as this application includes a Biodiversity Management and Enhancement Plan (Appendix 6-4) to be implemented as part of the Prospective Development, the opportunity to enhance biodiversity, at a local scale, would also be lost.

15.2.3.7.2 Construction Phase

Electricity

PRE-MITIGATION IMPACT

Existing overhead and underground electricity cables are present both within and in the vicinity of the Site. Accidental damage to these services can result in serious injury or death, as well as disruption to essential utilities. In such an event, a Short-Term, Potentially Significant, Negative Effect could arise.

MITIGATION MEASURES

Specific measures will be applied during the construction phase to mitigate any impact on electricity. These mitigation measures are set out in the CEMP in Appendix 4-3 of the EIAR, and below:

- › The suitability of machinery and equipment for use near power lines will be risk assessed.
- › All staff will be trained on operating voltages of overhead electricity lines running over the Site. All staff will be trained to be aware of the risks associated with overhead lines. All contractors that may visit the Site will be made aware of the location of overhead electricity lines before they come on to Site.
- › Barriers will run parallel to overhead lines at a minimum horizontal distance of 6 metres on plan from the nearest overhead line conductor wire.
- › When activities must be carried out beneath overhead lines, e.g., component delivery, a Site-specific risk assessment will be undertaken prior to any works. The risk assessment must take into account the maximum potential height that can be reached by the plant or equipment that will be used prior to any works. Overhead line proximity detection equipment will be fitted to machinery when such works are required.
- › Information on safe clearances will be provided to all staff and visitors.
- › Signage indicating locations and health and safety measures regarding overhead lines
- › All staff will be made aware of and adhere to the Health & Safety Authority's 'Guidelines on the Procurement, Design and Management Requirements of the Safety, Health and Welfare at Work (Construction) (Amendment) Regulations 2021'. This will encompass the use of all necessary Personal Protective Equipment and adherence to Health and Safety Plan.

RESIDUAL EFFECTS

Following the implementation of the mitigation measures outlined above, no impacts on electricity infrastructure or supply are anticipated. The residual effects on electricity infrastructure and supply are short term, imperceptible neutral effect.

SIGNIFICANCE OF EFFECTS

Based on the assessment above there will be not significant effects on electricity infrastructure and supply during the construction phase of the Prospective Development.

Waste and Built Services

PRE-MITIGATION IMPACT

The construction of the Prospective Development is unlikely to have an impact on above ground or underground built services or waste management. The Prospective Development infrastructure has been designed to avoid existing underground services and can be described as mitigation by design, therefore there is no potential to give rise to effects on other services.

Further detail on the impact assessment and mitigation measures of water resources and water supply is provided in Section 9.5 of Chapter 9: Hydrology and Hydrogeology, of this EIAR.

MITIGATION MEASURES

Notwithstanding the above, specific measures are incorporated into the CEMP, included as Appendix 4-3 of this EIAR, to ensure that the construction of the Prospective Development will not have effect on underground electrical cables and built services at the Wind Farm Site. The mitigation measures include the following:

- Any area where excavations are planned will be surveyed and all existing services will be identified prior to commencement of any works.
- Liaison will be had with the relevant sections of the Local Authority including all the relevant area engineers to ensure all services are identified.
- Excavation permits will be completed, and all plant operators and general operatives will be inducted and informed as to the location of any services.
- The contractor must comply with and standard construction codes of practice in relation to working around electricity, gas, water, sewage and telecommunications networks.

RESIDUAL EFFECT

Following the implementation of the above mitigation measures, there will be a short-term imperceptible negative residual effect, which is Not Significant, during the construction phase of the Prospective Development.

SIGNIFICANCE OF EFFECTS

Based on the assessment above there will be not significant effects on other material assets as a result of the construction phase of the Prospective Development.

15.2.3.7.3 **Operational Phase**

Water

The potential for impacts to water supply infrastructure relates to maintenance works which will be required along the Grid Connection route, along the N15 throughout the operational phase.

There will be no operational phase impacts or associated effects on built services and waste management associated with the Prospective Development.

Mitigation Measures

Notwithstanding the above, specific measures are incorporated into the CEMP, included as Appendix 4-3 of this EIAR, to ensure that the construction of the Prospective Development will not have effect on underground electrical cables and built services at the Wind Farm Site. The mitigation measures include the following:

- Any area where excavations are planned will be surveyed and all existing services will be identified prior to commencement of any works.
- Liaison will be had with the relevant sections of the Local Authority including all the relevant area engineers to ensure all services are identified.
- Excavation permits will be completed, and all plant operators and general operatives will be inducted and informed as to the location of any services.
- The contractor must comply with and standard construction codes of practice in relation to working around electricity, gas, water, sewage and telecommunications networks.

Residual Effect

Following the implementation of the above mitigation measures, there will be a short-term imperceptible negative residual effect, which is Not Significant, during the construction phase of the Prospective Development.

Significance of Effects

Based on the assessment above there will be not significant effects on other material assets as a result of the construction phase of the Prospective Development

Railways

At present there are no plans to recommission or redevelop the disused railway line in the vicinity of the Wind Farm Site. As such, there will be no operational phase impacts or associated effects on railway infrastructure associated with the Prospective Development.

Waste Management

It is not anticipated that any significant volume of waste will be generated within the Wind Farm Site during the operational phase of the Prospective Development as only a small number of operational and maintenance personnel will be present within the Site at certain times. Any waste generated due to the operation and maintenance of the Prospective Development will be disposed of in a covered skip. The waste material will be transferred to a MRF by a fully licenced waste contractor where the waste will be sorted into individual waste stream for recycling, recovery or disposal.

There will be no operational phase impacts or associated effects on built services and waste management associated with the Prospective Development.

15.2.3.7.4 Decommissioning Phase

The proposed turbines as part of the Prospective Development are expected to have a lifespan of 25 years. Following the end of their useful life, the wind turbines may be replaced with a new set of turbines, subject to planning permission being obtained, or the Prospective Development will be decommissioned as described in Section 4.12 of Chapter 4: Description of the Prospective Development and the accompanying Decommissioning Plan in Appendix 4-6.

The works required during the decommissioning phase are described in Section 4.12 of Chapter 4: Description of the Prospective Development of this EIAR. Any impact and consequential effect that occurs during the decommissioning phase will be similar to that which occurs during the construction phase, however to a lesser extent. Based on the assessment outlined above in Section 15.2.2.6.4, there will be no significant effects on existing and built services, or waste management as part of the decommissioning phase.

15.2.4 Cumulative Effects – Prospective Development

For the assessment of cumulative effects, any other existing, permitted or proposed projects (wind energy or otherwise) have been considered. The potential cumulative impact of the Prospective Development and other relevant developments has been carried out with the purpose of identifying what influence the Prospective Development will have on the surrounding environment when considered cumulatively and in combination with relevant existing permitted or proposed projects and plans in the area, in the vicinity of the Site, as set out in Section 2.9 in Chapter 2: Background to the Prospective Development of this EIAR.

During the development of any large project that holds the potential to effect telecoms or aviation, the developer is responsible for engaging with all relevant telecom operators and the relevant aviation authorities to ensure that the proposal will not interfere with television or radio signals by acting as a

physical barrier. In the event of any potential impact, the developer for each individual project is responsible for ensuring that the necessary mitigatory measures are in place. Therefore, as each project is designed and built to avoid impacts arising, a cumulative impact cannot arise.

On the basis of the assessment above, the Prospective Development will have no impact on built services and waste management. It is on this basis that it can be concluded that there would be a short-term imperceptible cumulative impact on built services and waste management from the Prospective Development during the construction phase and permitted or proposed projects and plans in the area, as set out in Section 2.9 in Chapter 2 of this EIAR. There are no cumulative effects associated with the construction, operational and decommissioning phases of the Prospective Development.

15.2.5 In-Cumulation Effects

This section considers the in-cumulation impact of the combination of the Existing Development and Prospective Development (the Subject Development). Table 15-29 below details the residual in-cumulation effects of the Subject Development.

Table 15-29 Assessment of potential In-Cumulation Effects of the Subject Development

Topic		Prospective Development	Existing Development	Subject Development
Material Assets	Aviation	The Prospective Development will have no impact on Aviation, therefore the effects on aviation from the Prospective Development are considered to be Not Significant.	No potential for effect.	The effects on aviation from both the Prospective Development and Existing Development are considered to be Not Significant. There are no effects on Aviation associated with the Existing Development and therefore no potential for an in cumulation effect. The potential for In-Cumulation effects on aviation from the Subject Development is Not Significant. The potential effect on aviation of the Subject Development is the same as the Prospective Development and is Not Significant.
	Telecoms	The Prospective Development will have no impact on telecommunications services in the vicinity of the Wind Farm Site, therefore the effects on telecoms from the Prospective Development are considered to be Not Significant.	No potential for effect.	The effects on telecoms from both the Prospective Development and Existing Development are considered to be Not Significant. There are no effects on telecoms associated with the Existing Development and therefore no potential for an in cumulation effect. The potential for In-Cumulation effects on telecoms from the Subject

Topic		Prospective Development	Existing Development	Subject Development
				Development is Not Significant. The effect on Telecoms of the Subject Development is Not Significant.
	Electricity Infrastructure and Supply, Water Infrastructure and Supply, Waste Management Services	The Prospective Development will have no impact on utilities as there are none recorded within the Wind Farm Site and the BMEP Site. The effects on utilities from the Prospective Development are considered to be Not Significant.	No Significant Effect	The effects on utilities from both the Prospective Development and Existing Development are considered to be Not Significant. There is no temporal overlap between the Prospective Development and the Existing Development and therefore no potential for an in cumulation effect. The potential for In-Cumulation effects from the Subject Development is Not Significant. The effects on Utilities from the Subject Development is Not Significant.

15.2.6 Cumulative Effects – Subject Development

For the assessment of cumulative effects of the Subject Development, any other existing, permitted or proposed projects (wind energy or otherwise) have been considered. The potential cumulative effects of the Subject Development and other relevant developments has been carried out with the purpose of identifying what influence the Subject Development will have on the surrounding environment when considered cumulatively.

Further information on projects considered as part of the cumulative assessment are given in Section 2.9 of Chapter 2: Background and Policy of this EIAR and also Chapter 2 Background and Policy the rEIAR. The cumulative effects assessment of the Subject development has considered the list of plans and projects listed in Appendix 2-1 of this EIAR, and Appendix 2-1 of the rEIAR.

Table 1.5-30 Assessment of potential Cumulative Effects of the Subject Development

Topic		Subject Development
Material Assets	Aviation	The potential for cumulative effects on aviation from the Prospective Development is the same as the potential for cumulative effects for the Prospective Development, therefore there is no potential for significant cumulative effects from the Subject Development. The potential for Cumulative effects on Aviation from the Subject Development is Not Significant.
	Telecoms	The potential Cumulative effect on telecoms as a result of both the Prospective Development and the Existing Development is Not Significant. The potential for Cumulative effects on Telecoms from the Subject Development in combination with other projects listed in Chapter 2 of the EIAR and rEIAR is also considered to be Not Significant.
	Electricity Infrastructure and Supply, Water Infrastructure and Supply, Waste Management Services	The potential Cumulative effect on electricity infrastructure and supply, water infrastructure and supply or waste management services as a result of both the Prospective Development and the Existing Development is Not Significant. The potential for Cumulative effects on Electricity Infrastructure and Supply, Water Infrastructure and Supply, Waste Management Services from the Subject Development is also Not Significant.

15.2.7 Transboundary Effects

This section considers the potential for transboundary effects as a result of the Subject Development. Table 15-31 below details the residual effects of the Subject Development, and the potential for which the Subject Development could affect a different jurisdiction.

Table 15-31 Assessment of potential Transboundary Effects of the Subject Development

Topic		Prospective Development	Existing Development	Subject Development
Material Assets	Aviation	No Significant Effect on Aviation receptors within the study area, thus there is no potential for Significant Transboundary Effects from the Prospective Development.	No potential for effects from the existing development, therefore there is no potential for Significant Transboundary Effects from the Existing Development.	No potential for Significant Transboundary Effects from the Subject Development
	Telecoms	No Significant Effect on Telecoms within the study area, thus there is no potential for Significant Transboundary Effects from the Prospective Development.	No potential for effects from the existing development, therefore there is no potential for Significant Transboundary Effects from the Existing Development.	No potential for Significant Transboundary Effects from the Subject Development
	Electricity Infrastructure and Supply, Water Infrastructure and Supply, Waste Management Services	No Significant Effect on utilities as none are located within the Site, thus there is No potential for Significant Transboundary Effects from the Prospective Development.	No potential for effects from the existing development, therefore there is no potential for Significant Transboundary Effects from the Existing Development.	No potential for Significant Transboundary Effects from the Subject Development