

Environmental Impact Assessment Report (EIAR)

Slievegrine Renewable
Energy Development, Co.
Waterford

Chapter 15: Material Assets



15. MATERIAL ASSETS

15.1 Traffic and Transport

15.1.1 Introduction

15.1.1.1 Overview

This section of the EIAR presents an assessment of the potential traffic and transport impacts and effects on the existing transport network and associated sensitive receptors, arising from the construction, operation (including maintenance) and decommissioning of the Proposed Project.

As detailed in Section 1.1.2 in Chapter 1: *‘Introduction to the Proposed Project’*, for the purposes of this EIAR, the following references are used: ‘Proposed Project’, ‘Proposed Wind Farm’, ‘Proposed Grid Connection’, ‘Proposed Turbines’, ‘Proposed 110kV Underground Cabling Route’, ‘Proposed 110kV Substation’, ‘Proposed 220kV Loop-in Substation’, the ‘Site’, the ‘Proposed Wind Farm site’ and the ‘Proposed Grid Connection site’. A detailed description of the Proposed Project is provided in Chapter 4: *‘Description of the Proposed Project’* of this EIAR.

This Traffic and Transport section of the EIAR comprises the following elements:

- A summary of relevant policy and guidance;
- A summary of consultations with stakeholders;
- The methodology followed in assessing the impacts of the Proposed Project;
- A review of the existing conditions in the vicinity of the Proposed Project;
- A description of the transport specific details of the Proposed Project and the traffic volumes that will be generated during the construction, operational and decommissioning phases;
- An assessment of likely significant effects on the public road network arising from the construction, operation and decommissioning of the Proposed Project;
- Proposed mitigation measures;
- Identification of any residual impacts; and
- Assessment of potential cumulative impacts.

15.1.1.2 Statement of Authority

This section of the EIAR has been prepared by Alan DeVenny, supported by Julie Ruscoe of SYSTRA Ltd (SYSTRA). SYSTRA have extensive experience in the preparation of Traffic and Transport EIAR Chapters and Environmental Statements. SYSTRA’s team has produced Traffic and Transport EIAR Chapters and Abnormal Loads Assessment reports for numerous renewable energy developments across Ireland and the UK.

Alan DeVenny BEng, PhD, CEng, MICE, is a Projects Director at SYSTRA. Alan has over 26 years’ experience working in traffic and transport consultancy and over 18 years’ experience of working on renewable energy projects. Alan has advised on over 300 energy developments including over 250 wind energy developments, delivering EIAR chapters, access assessments, abnormal loads assessments, infrastructure design and traffic management plans.

Julie Ruscoe BSc (hons) is a Senior Consultant at SYSTRA with over nine years’ experience working in the traffic and transport industry and over three years’ experience of producing EIAR chapters and traffic management plans for renewable energy projects. Julie has produced EIAR chapters for over 50 renewable energy developments including over 30 wind farms.

Traffic counts were undertaken by Traffinomics Ltd, which is an Irish traffic survey company with a comprehensive knowledge of traffic data collection methods which has been trading since 2013.

15.1.1.3 Relevant Guidance

The following relevant guidance and policies have been adhered to in the preparation of this assessment:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022)
- Transport Assessment Guidelines (TII PE-PDV-02045, May 2014)
- Waterford City and County Development Plan 2022-2028
- Project Appraisal Guidelines Unit 5.2 - Data Collection (TII PE-PAG-02016, Dec 2023)
- Rural Road Link Design (TII DN-GEO-03031, June 2017)
- Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections (TII PE-PAG-02017, Oct 2021)
- Circular RW 07 of 2025: Interim Guidance to Road Authorities regarding placement of MV/HV electricity assets under public roads (Version 1) Circular RW 05 of 2026: Interim Guidance to Road Authorities regarding placement of MV/HV electricity assets under public roads (Version 2)
- Guidelines for Managing Openings in Public Roads: Guidelines for the Opening, Backfilling and Reinstatement of Openings in Public Roads, Second Edition (Rev 1), April 2017
- Reinstatement of Openings in National Roads (TII CC-PAV-04007, May 2019)

15.1.1.4 EIAR Scoping and Consultation

Transport Infrastructure Ireland

A response to the EIAR Scoping Exercise request was received from Transport Infrastructure Ireland by email on 23rd July 2025. Table 15-1 summarises the matters raised by TII.

Table 15-1 Transport Infrastructure Ireland Scoping Response

Summary Scoping Response	Response
Consultations should be had with the relevant Local Authority/National Roads Design Office with regard to locations of existing and future national road schemes in the area.	All relevant stakeholders have been consulted through the scoping process.
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 impact of the Proposed Project in terms of link flows on the national road network is considered in Section 15.1.4.2. An assessment of the Turbine Delivery Route (TDR) including swept paths is included in Appendix 15-1.
The developer should assess visual impacts from existing national roads.	Visual impacts of the Proposed Project are assessed in Chapter 14: 'Landscape and Visual' of this EIAR.

Summary Scoping Response	Response
The developer should have regard to any EIAR/EIS and all conditions and/or modifications imposed by An Bord Pleanála regarding road schemes in the area. The developer should, in particular, have regard to any potential cumulative impacts.	Cumulative impacts are addressed in Section 15.1.7 of this Chapter.
The developer, in preparing EIAR, should have regard to TII Publications (formerly DMRB and the Manual of Contract Documents for Road Works).	The Applicant confirms that the design of the access junctions is in accordance with TII guidelines.
The EIAR 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 (March 2014)	Noise impacts of the Proposed Project are assessed in Chapter 12: <i>'Noise and Vibration'</i> of this EIAR.
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 (National Roads Authority, 2014)).	Noise impacts of the Proposed Project are assessed in Chapter 12: <i>'Noise and Vibration'</i> of this EIAR.
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 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 requires that 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 the NRA/TII TTA Guidelines, which addresses requirements for sub-threshold TTA. 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.	The assessment provided in this Chapter has been undertaken in accordance with relevant guidelines including consideration of the TII TTA thresholds and sub thresholds.
The designers are asked to consult TII Publications to determine whether a Road Safety Audit is required.	A Road Safety Audit has been included as Appendix 15-4.
In the interests of maintaining the safety and standard of the national road network, the EIAR should identify the	Construction methods and techniques are specified in Chapter

Summary Scoping Response	Response
methods/techniques proposed for any works traversing/in proximity to the national road network.	4: <i>Description of the Proposed Project</i> of this EIAR.
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, 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. In addition, the haul route should be assessed to confirm capacity to accommodate abnormal 'length' loads and any temporary works required should be identified.	The proposed TDR is identified in this Chapter, and a full Abnormal Load Assessment of the route is provided in Appendix 15-2, which indicates any mitigation measures required.
The applicant/developer should also consult with all PPPs, MMarC and 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.	The Applicant agrees to undertake this consultation at the appropriate time.
Where temporary works within any MMarC Contract Boundary are required to facilitate the transport of turbine or substation components to 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 notes this.
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 notes this and agrees.
Any Road Safety Audit requirements should be addressed.	A Road Safety Audit has been included as Appendix 15-4
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,	The Applicant notes this and agrees

Summary Scoping Response	Response
consideration should be given to routing options, use of existing crossings, depth of cable laying, etc. and consultation with Waterford City and County Council should be undertaken.	
Cable routing should avoid all impacts to existing TII infrastructure, such as traffic counters, weather stations, etc., and works required to such infrastructure shall only be undertaken in consultation with and subject to the agreement of TII, any costs attributable shall be borne by the applicant/developer. The developer should also be aware that separate approvals may be required for works traversing the national road network. All crossings in the vicinity of the national road should be by HDD and avoid all national road structures, including bridges, culverts, etc.	The Applicant notes this and agrees

Department for Transport

A response to the Informal Scoping Report was received from the Department for Transport by email on the 22nd July 2025. Table 15-2 summarises the matters raised by the Department for Transport.

Table 15-2 Department for Transport Scoping Response

Summary Scoping Response	Response
It should be noted that the Department considers the construction involved in providing this development and especially, the connection cables to the national grid, may have effects on both the environment and the Regional and Local Road network. ➤ 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. ➤ 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 and the design needs to take account of all the variable ground conditions and not be based on a sample of the general soil conditions. ➤ 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 necessity to have the power in the cables switched off (particularly where structural failures occur due to	The Applicant confirms that the points raised by the Department for Transport have been acknowledged and considered and that design of the Proposed Project is in accordance with all appropriate guidance.

Summary Scoping Response	Response
extreme weather events) where the Road Authority considers this necessary in order to carry out its function to construct and maintain the public road. In this regard, please refer to Department of Transport Circular RW 07 of 2025 and the 'Interim Guidance to Road Authorities (placement of Medium or High Voltage electricity assets)'.	
The Department consider it important that the examination of the proposal should include consideration of the following: ➤ 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. ➤ 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 Applicant confirms that the points raised by the Department for Transport have been considered during selection and design of the Proposed Grid Connection.
The Department would recommend the following conditions should be applied to any grant of permission that includes the laying of high voltage electricity cable in the road network where that routing is identified as the 'optimal solution'; ➤ Engagement with the planning authority should discuss and agree the route for the HV Cable(s) to identify/agree the routing 'optimal solution' along with the associated requirements for traffic management, road opening licencing, times of work, reinstatement, positioning of chambers/joint bays etc. ➤ A condition requiring the developer to, at a minimum, comply with all appropriate standards and, inter alia the Guidelines for Managing Openings in Public Roads, 2017 in order to ensure orderly development. ➤ Electricity cabling shall be laid off carriageway where feasible. ➤ Wherever possible, joint bay structures are best located off the carriageway in verges, open spaces, or adjacent sites; and where they must be under carriageway, joint bay structures will be to accepted design standards. ➤ High/medium voltage transmission underground cables should not be sited on or attached to existing roads structures, masonry bridges/ culverts and the like.	The Applicant will accept the conditions set out by the Department for Transport.

Summary Scoping Response	Response
> A condition requiring that the location of the cables would be recorded as exactly as possible, using BIM type technology, so as to facilitate the further use of road space for utilities and the maintenance/construction of the public road by the Roads authority. The record should be lodged with the local authority and with the ESB Networks for retention on their records. > A condition requiring the replacement of culverts that have been excavated during the cable duct placement operation. The replacement culverts should be designed appropriately and include an allowance for the effects of climate change. > A condition requiring the developer to notify the Roads Authority of the owner of the cables (Owner) and the controller (Power Controller) of the power transmitted along the cables. In addition, the condition should require Owner and Power Controller to notify the Roads Authority of any change in ownership of the cables or change of Power Controller transmitting power along the cables. In all instances the Owner and Power Controller should be required to maintain an agreed contacts list with the Roads Authority.	

15.1.1.5 Methodology

This assessment has been prepared having regard to the PE-PDV-02045 'Traffic and Transport Assessment Guidelines', PE-PAG-02017 'Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections' together with the general principles set out in the EPA 'Guidelines on the information to be contained in Environmental Impact Assessment Reports'.

The traffic forecasting assessment has adopted a simple, link-based methodology. This is considered appropriate having regard to the rural location of the Proposed Project, the temporary nature of the majority of construction traffic effects, the limited extent of the road network likely to be affected, and the absence of any likely alternative routes. This approach is consistent with PE-PAG-02017, which states that for simple models on rural road networks, future traffic growth may be projected using link-based growth rates.

The extent of the study area and the scope of the assessment have been informed by the thresholds and principles set out in PE-PDV-02045, with particular regard to local roads and junctions likely to experience traffic changes associated with construction traffic, abnormal load deliveries and underground cabling works.

The assessment has considered the likely significant traffic and transport effects arising during the construction, operation and decommissioning phases of the Proposed Project. In accordance with the EPA guidelines, the assessment is based on a description of the receiving environment, a description of the Proposed Project, identification of likely significant effects, and the identification of mitigation measures and residual effects.

The significance of traffic and transport effects has been determined having regard to the sensitivity of the affected receptor, the magnitude of the predicted traffic change, the existing traffic conditions and available road capacity, and the duration and nature of the effect. In this regard, both percentage

changes and absolute traffic levels have been considered in forming professional judgement on significance.

At the time of assessment, exact suppliers, quarry sources and detailed daily delivery schedules are not yet confirmed. The assessment therefore applies robust assumptions regarding construction traffic generation, routing and daily distribution, including a reasonable worst-case assessment of peak concrete pour days and a conservative allowance for imported stone. The assessment is therefore considered to provide a robust basis for evaluation of likely traffic and transport effects.

The geometric design elements of the Proposed Project have been assessed in accordance with relevant standards and guidance. In particular:

- Swept path analysis has been carried out considering the proposed site access geometry using Autodesk AutoCAD Vehicle Tracking for associated construction vehicles; and,
- Swept path assessment of the existing road network has been carried out for the proposed turbine and transformer delivery routes and for relevant site access locations using Autodesk AutoTrack vehicle tracking software.

15.1.2 Receiving Environment

15.1.2.1 Site Location

The Site is located in south County Waterford, approximately 5km southwest of Dungarvan. The N25 national primary road runs in a north to south direction to the east of the Site, passing within 200m of the Site at its closest extent. Land use on the Site currently comprises a mix of commercial forestry and pastoral agricultural land. Land use in the surrounding areas is also commercial forestry and pastoral agricultural land, plus low-density residential. Existing access to the Site is via forestry and agricultural entrances from the L2023 and L2024 local roads as well as the L-6084 local road to the south of the Site and the L-6082 to the west of the Site.

15.1.2.2 Proposed Turbine Delivery Route

There are a range of ports within the island of Ireland that have proven capability to accept and store large turbine components. These ports include Cork, Foynes, Waterford, and Galway ports. Furthermore, subsequent access to the national motorway network during transportation from these ports has been demonstrated. The facilities within the ports and access to and from the ports is continually being upgraded as part of general improvements. It is on this basis that it is not foreseen that this project will require any material change to the port selected should the project be consented and enter into the construction phase.

For the purpose of this EIAR, turbine components are proposed to be shipped to the Port of Waterford and would travel approximately 66km to the Site via the following route:

- Exit Belview Port at the Port of Waterford onto the N29, passing through Slieverue Roundabout and continuing north to Luffany Roundabout on the N25;
- Turn west onto the N25 at Luffany Roundabout and continue for approximately 59km and
- Turn west onto the L2024 at Pulla and continue for 1.1km to reach the main Site access point.

The Proposed Turbines to be installed on the Proposed Wind Farm will have the following dimensions:

Table 15-3: Proposed Turbine Dimensions

Turbine ID	Tip Height (m)	Rotor Diameter (m)	Hub Height (m)
T1 - T6, T13 - T21	175	150	100
T7 - T12	185	162	104
T22 & T23	170	150	95

The largest proposed rotor diameter is 162m. Therefore, in order to determine the greatest extent of potential accommodation (road widening) works and blade oversail requirements required for the delivery of all turbine components, a turbine blade with a length of 79.35 metres has been used in assessing the proposed turbine delivery route for the Proposed Project. The blade transporter for such a turbine blade would have a total vehicle length of 84.6 metres, including the blade which overhangs the back of the vehicle.

The vehicles used to transport the towers and nacelles will be smaller than the blade transporter. All other vehicles requiring access to the Site will be smaller than the large turbine component transport vehicles. There are no significant turbine delivery route accommodation works required to facilitate the delivery of components to the Site and a full abnormal loads assessment of the TDR is provided in Appendix 15-2.

The TDR is indicated by Figure 15-1

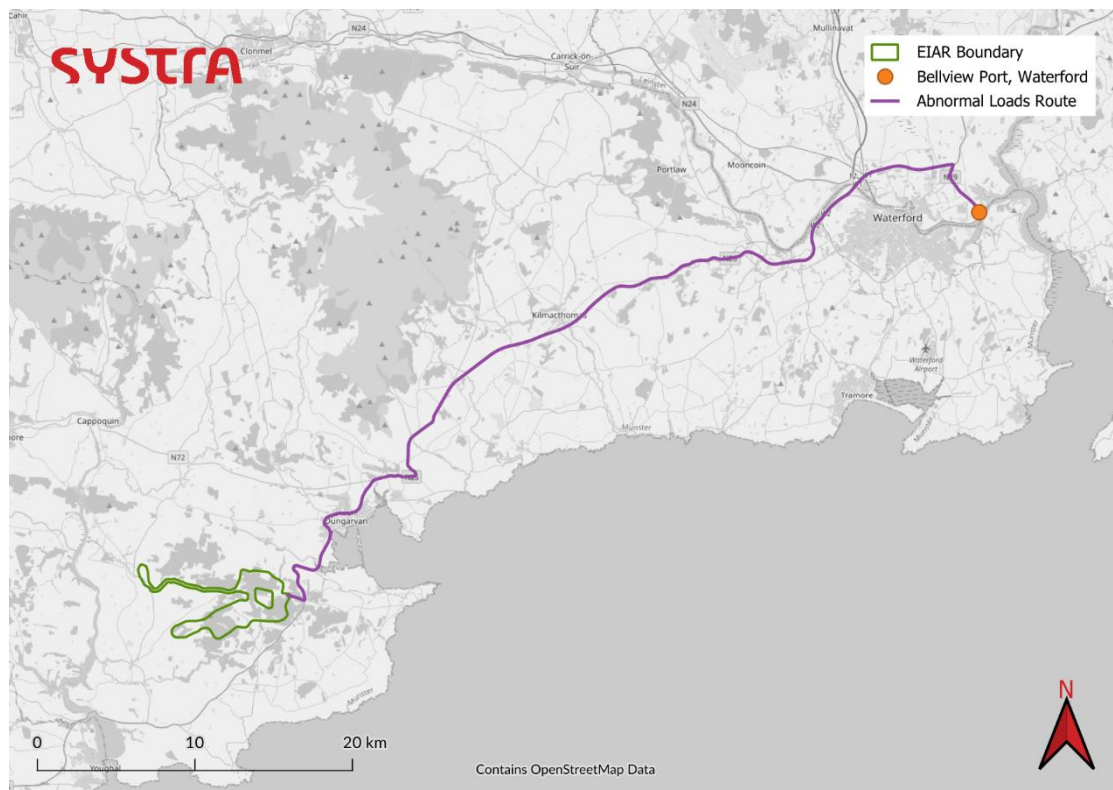


Figure 15-1. Turbine Delivery Route

15.1.2.3 Proposed Construction Traffic Haul Routes

During construction of the Proposed Project, various construction materials and plant will be required to be delivered to the Site, plus daily workforce travel to and from the Site. It is anticipated that the

majority of construction traffic will travel to the Site via the N25 from the southwest (Cork) or the east (Waterford), then via the L2024 to the main site access or one of the secondary access points which are located on the L2024.

Some construction traffic associated with construction of the Proposed Grid Connection may route north from the N25 via the R671, as the Proposed 110kV Underground Cabling Route follows the L2024, L2021, R671 and L99997 local roads.

The main Site access is proposed to be located on the L2024, approximately 1.1km west of the L2024 junction with the N25. Two secondary accesses are proposed on the L2024, plus an access to the Proposed 220kV Loop-In Substation at the western extent of the Proposed 110kV Underground Cabling Route via the L99997. Proposed Site accesses are discussed in Section 15.1.3.1.

Proposed construction traffic haul routes are indicated by Figure 15-2.

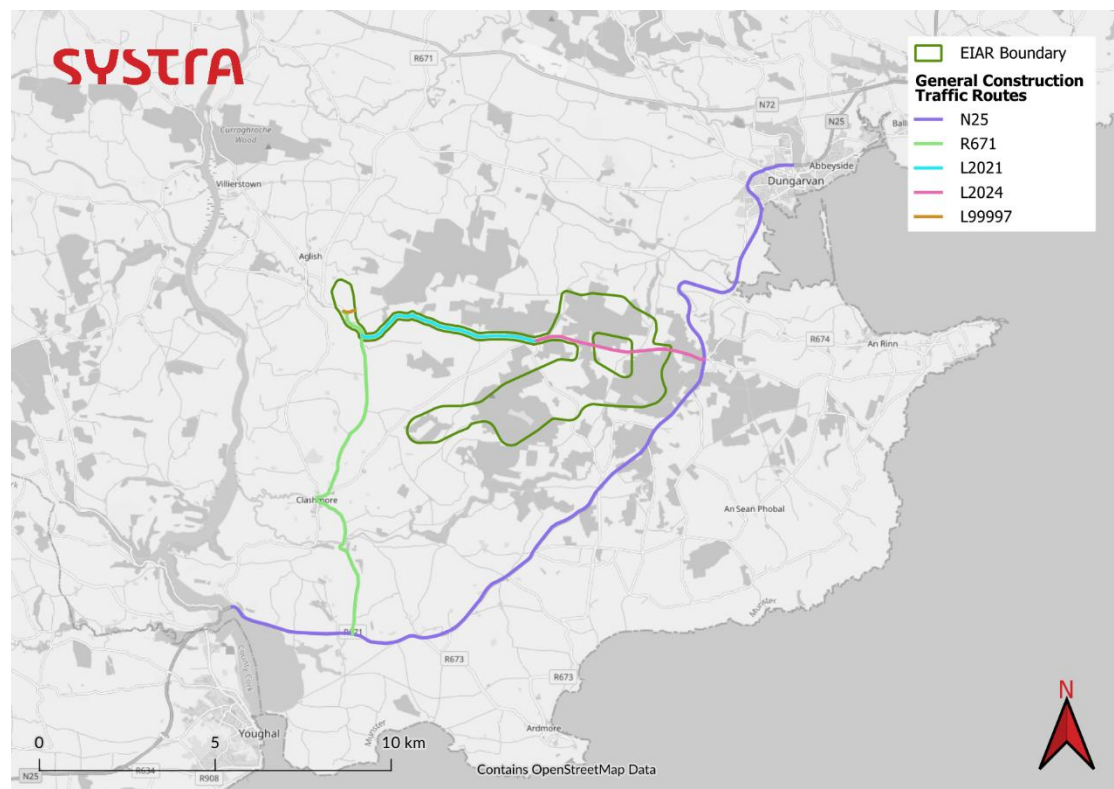


Figure 15-2. Construction Traffic Routes

15.1.2.4 Proposed Grid Connection

The Proposed 110kV Underground Cabling Route will originate at the Proposed 110kV Substation and run north for approximately 262m through an existing site road towards the L2024 then continue west underneath the L2024 local road network for approximately 1.6km before following the L2021 west for approximately 5.25km. The underground cabling route then follows the R671 regional road north for 915m before entering the L99997 local road for approximately 190m, traversing through agricultural pastures for approximately 788m before connecting into the proposed 220kV Loop-in Substation. 13 no. joint bays are proposed along the Proposed 110kV Underground Cabling Route at intervals of approximately 600 to 800m. The Proposed 110kV Underground Cabling Route is indicated in Figure 15-3

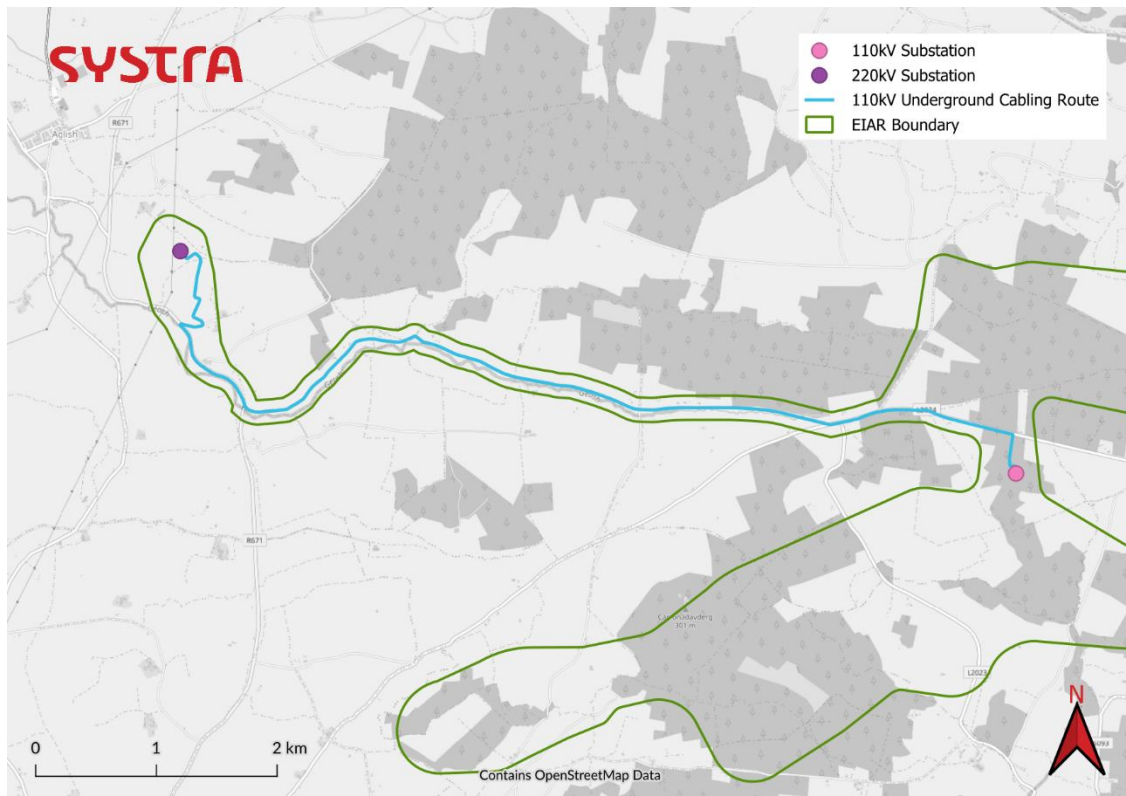


Figure 15-3. Proposed 110kV Underground Cabling Route

15.1.2.5 Existing Road Network

The following section summarises the characteristics of the roads considered to form the study area for general construction traffic. The study area road links are indicated on Figure 15-2 Construction Traffic Haul Routes.

N25

The N25 is a national primary road which routes from Cork to Rosslare Europort via Waterford City. The TDR proposes to utilise the N25 from Luffany Roundabout to the L2024, a distance of approximately 58 km. General construction traffic may approach from Waterford to the east or Cork to the southwest. The section of N25 from Luffany Roundabout to Carrick Roundabout is a Type 1 Dual Carriageway with hard shoulder. From Carrick roundabout the N25 continues west to the L2024 as a Type 1 Single Carriageway with hard shoulders. Although the general speed limit for the N25 is 100km/hr this has been reduced in several areas due to safety concerns. In the vicinity of Luffany Roundabout the speed limit is reduced to 80 km/hr. The speed limit is reduced to 60 km/hr for a section between Ballinalira and Dungarvan.

The N25/L2024 junction is within a 100km/hr section and right turn, and left turn lanes are provided at on the N25 for traffic turning into the L2024.

R671

The R671 is a regional road which routes north from the N25 south of Dungarvan to Clonmel in County Tipperary. The R671 does not form part of the TDR but the section between the N25 and the L99997 may be used by general construction traffic associated with the Proposed Grid Connection. The R671 is a Type 3 Single Carriageway and is subject to a typical speed limit of 80 m/hr which reduces to 50 km/hr in built up areas.

L2024

The L2024 is a local secondary road and is a single carriageway road. Abnormal loads and general construction traffic will use the L2024 to access the Site, primarily via the N25 junction to the east of the Site. The L2024 generally has narrow verges and no road markings however the junction with the N25 is of a good standard with road markings and signage and passing places are present along the L2024. The speed limit on the L2024 is the default speed limit on rural local roads of 60 km/hr.

L2021

The L2021 is a local secondary road and is a single carriageway forming part of the Proposed 110kV Underground Cabling Route between the L2024 and the R671. As such, general construction traffic associated with construction of the wind farm would not utilise this road, however impacts are likely due to construction of the grid connection. The L2021 generally has narrow verges and no road markings and the speed limit on the L2021 is the default speed limit on rural local roads of 60 km/hr.

L99997

The L99997 is a local secondary road and a single carriageway which would be utilised for access to the Proposed 220kV Loop-in Substation therefore only construction traffic associated with the substation and some elements of the Proposed 110kV Underground Cabling Route would access via this route. The road forms a junction with the R671 and services 4 no. residential units and agricultural buildings/pastures. Upgrades (detailed in Section 15.1.3.1) would be required to the junction to facilitate the transformer delivery which would be an abnormal load.

15.1.2.6 Road Safety

Road collision statistics for the study area were obtained from the Road Safety Agency website¹. The statistics are based on data from An Garda Síochána. Table 15-4 provides information on collisions within the study area over the five-year period from 2020 to 2024 (the most recent available data).

Table 15-4 Road Collision Statistics

Road Link	Non-serious	Serious	Fatal	Commentary on fatal collisions
R671 between N25 and L99997	2	1	0	n/a
N25 between the Youghal Bridge and Shandon Roundabout at Dungarvan	27	5	2	Fatal collision in December 2020 south of Dungarvan between the L6126 and L3100 junctions. Fatal collision in September 2022 involving a pedestrian, in the vicinity of the L6045 junction.
L2024 between N25 and L2021	0	0	0	n/a
L2021 between L2024 and R671	0	0	0	n/a

¹ <https://www.rsa.ie/road-safety/statistics/collisions>

The collision data shown in Table 15-4 indicates that the majority of recorded incidents within the study area occurred on the N25, which experienced 34 collisions in total, comprising 27 non-serious, 5 serious and 2 fatal incidents. This reflects the strategic function of the N25 and its substantially higher traffic volumes relative to the local road network. The R671 recorded 3 collisions over the same period, while no collisions were recorded on the L2024 between the N25 and L2021 or on the L2021 between the L2024 and R671. The local roads in the immediate vicinity of the Proposed Project therefore demonstrate a good recent road safety record. A road safety audit has been included as Appendix 15-4 of the EIAR, in which no road safety issues were identified.

15.1.2.7 Baseline Traffic Volumes

15.1.2.7.1 Traffic Surveys

Classified Junction Turning Count (JTC) traffic surveys were carried out by Traffinomics Ltd. At the following two junctions on the 12th March 2026 for a period of 24 hours:

- R671/L2024 junction at Coolbooa, and
- N25/L2024/L2036 junction at Pulla.

The survey locations are indicated by Figure 15-4. The numbered locations refer to road links used for assessment purposes as discussed in 15.1.2.7.2 below.

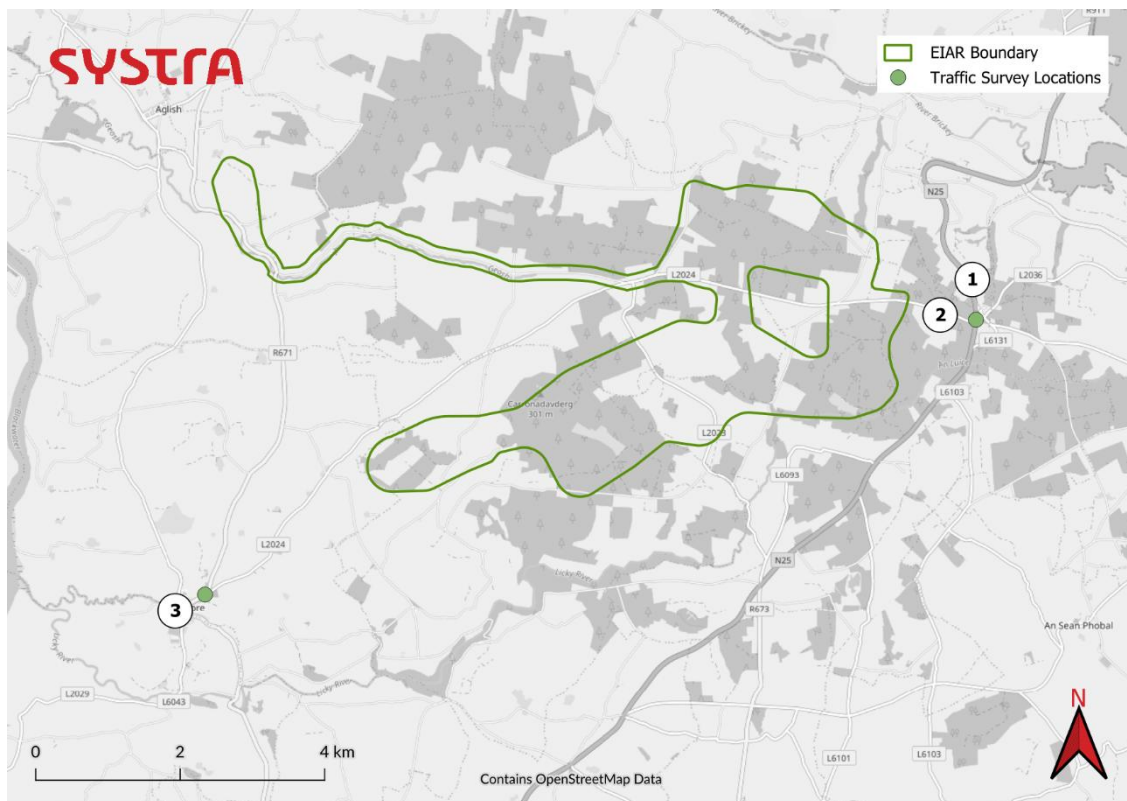


Figure 15-4. Traffic Survey Locations

Data was collected in accordance with the TII Project Appraisal Guidelines Unit 5.2 - Data Collection (TII PE-PAG-2016, 2023) and is considered neutral and representative of usual conditions as surveys were not carried out during times of local or national holidays.

15.1.2.7.2 2026 Baseline Traffic Volumes

From the data collected by Traffinomics during the March 2026 surveys, 2026 baseline traffic flows were calculated for the following road links as numbered on Figure 15-4:

- 1. N25 north of L2024 junction
- 2. L2024 near N25
- 3. R671 south of L2024

Table 15-5 indicates the 2026 baseline average daily traffic (ADT) and HGV traffic flows at the three locations for the 24 hour survey period, including the percentage of traffic which is classified as HGVs.

Theoretical road capacities are provided based on road types and widths as set out in the TII Standards document DN-GEO-03031 Road Link Design, Table 6/1. No published TII capacity values are available for the local secondary roads assessed as part of this chapter. For the purpose of this appraisal, a conservative nominal capacity of 1,000 vehicles per day has been adopted for these local roads to provide a comparative basis for assessment.

Table 15-5 2026 Baseline Traffic Volumes (two way)

Link	Data Source	TII Capacity	2026 ADT	2026 HGV	Percentage HGV
1 N25	2026 JTC Survey	11,600	8,406	1,100	13.1%
2 L2024	2026 JTC Survey	1,000	173	14	8.1%
3 R671	2026 JTC Survey	5,000	1,152	104	9.0%

15.1.2.7.3

2029 Construction Year Traffic Volumes

The assumed year of construction is 2029. Construction year traffic volumes have been derived by applying annual central growth rates to the surveyed 2026 baseline flows. This approach is consistent with the link-based growth methodology set out in PE-PAG-02017, which provides annual traffic growth rates by County for use in simple models. As the Proposed Project is located within County Waterford and outside the Waterford Metropolitan Area, the County Waterford annual central growth rates have been applied.

The annual central growth rates for light (car & LGV) and heavy vehicles for Waterford County are contained within Table 15-6. Cumulative growth rates from 2026 to 2029 are indicated by Table 15-7.

Table 15-6 County Waterford Annual Central Growth Rates

County	2016 - 2030	
	LGV	HGV
Waterford	1.0171	1.0358

Table 15-7 Cumulative Annual Central Growth Rates

Year	LGV	HGV
2026	1	1
2027	1.0171	1.0358
2028	1.0345	1.0729
2029	1.0522	1.1113
2026 – 2029 growth rate	1.0522	1.1113

Construction year (2029) baseline traffic volumes have been generated from the 2026 baseline traffic flows and the County Waterford annual central growth rates. The 2029 traffic volumes are provided in Table 15-8.

Table 15-8 2029 Construction Year Baseline Traffic Volumes

	2029 Car/LGV	2029 HGV	2029 Total	Percentage HGV
1 N25	7,687	1,222	8,910	13.7%
2 L2024 east	167	16	183	8.5%
3 R671	1,103	116	1,218	9.5%

15.1.2.8 Sustainable Transport Provision

There are limited public transport services in the vicinity, and no bus services operate on the L2024. Given the nature and rural location of the Proposed Project it is assumed that all trips will be made by vehicle and no trips will be made by walking, cycling or public transport due to the absence of realistic sustainable travel options for workforce travel.

Stage 6 of the St. Declan's Way walking trail routes from Aglish to Ardmore. The route travels south, intersecting the L99997 near the agricultural premises at the end of the lane then routes east at Goish onto the L2021. The waymarked route continues on the L2021 for approximately 3.6km before turning south onto Lackanagreany. The trail crosses the L2024 and continues south, eventually crossing the N25 and continuing to Ardmore. Measures would be provided in the Traffic Management Plan (TMP) relating to the St. Declan's Way trail. The TMP is included as Appendix 15-3 of this EIAR.

There are no other identified walking or cycling routes in the vicinity of the study area which would be affected by construction of the Proposed Project.

15.1.3 Proposed Project

The traffic and transport assessment contained within this Chapter has been based on the project description set out in Chapter 4: 'Description of the Proposed Project', which includes, inter alia the following:

- 23 no. turbines;
- 80 m met mast;
- 30 m telecoms relay mast;

- > Proposed 110 kV Substation;
- > Proposed 220 kV Loop-In Substation;
- > 110 kV, 220 kV, 38 kV and 33kV underground cabling works;
- > 6 no. construction compounds;
- > 5 no. borrow pits;
- > 4 no. access points; and
- > all associated road upgrade and access works.

15.1.3.1 Access Locations

This section details the proposed site access locations. The proposed access locations are indicated by Figure 15-5 and drawings providing preliminary design of each access including swept paths are provided in Appendix 15-2.

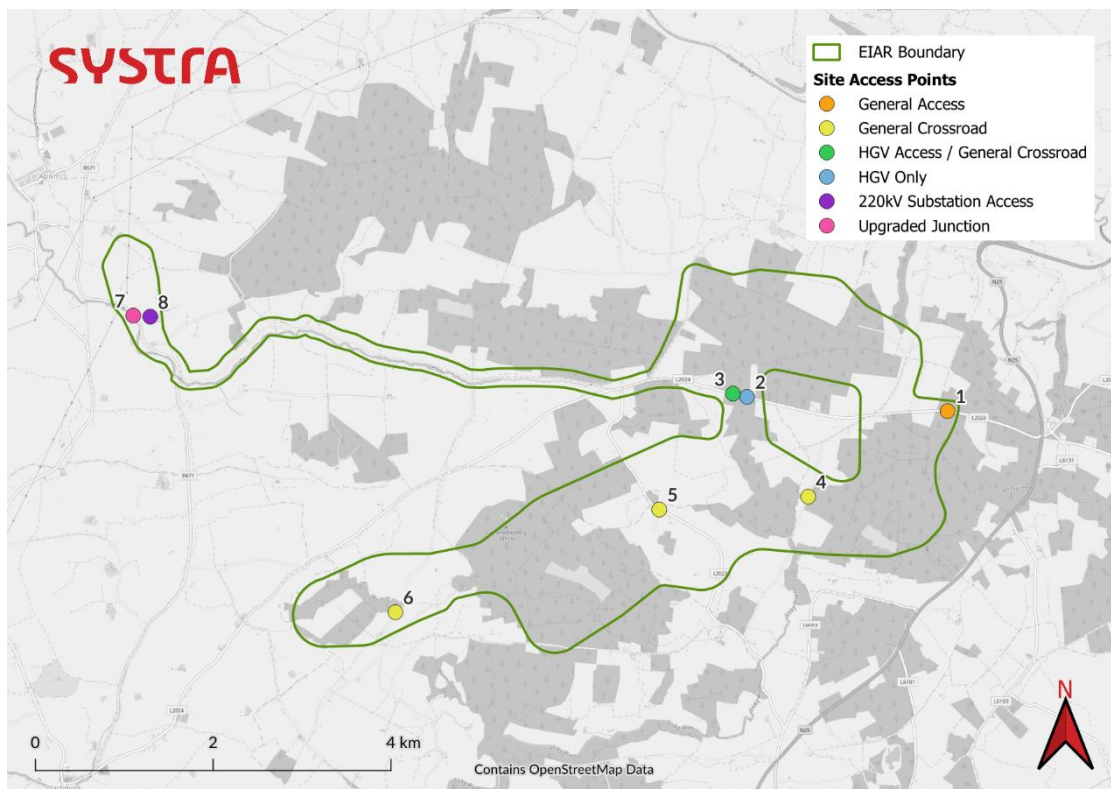


Figure 15-5. Proposed Access Locations

Main Entrance

The main construction access point for the Proposed Wind Farm (Access Point 1 above) will be located on the L2024 in the townland of Pulla, approximately 1.1km west of the L2024 junction with the N25. The majority of turbine components and general construction traffic will use this entrance. An existing gravel forest access junction at this location will be upgraded to achieve appropriate visibility splays and to accommodate the largest abnormal load deliveries including turbine components. On completion of the construction phase, this Site entrance will be reduced in size and gated for security and will be used as an operational Site entrance.

Secondary Entrances

Two additional access points (Access Point 2 and 3) will be used for construction and operational access to the Proposed Project and these would be located on the L2024 to the west of the main access. Access point 2 would provide a junction leading south from the L2024 into the Site for general

construction traffic (not abnormal load vehicles) and would provide the most direct access to the Proposed 110kV Substation. Access point 3 would comprise a crossroad junction leading north and south of the L2024 and would be used to facilitate general construction traffic and abnormal load vehicles. For the latter (Access Point 3), it is noted that traffic would cross straight over the junction having accessed the Site via the Main Entrance to the east and travelled to this location via the internal access road network. Abnormal loads seeking to access the turbine locations north of the L2024 would use this route.

220kV Loop-in Substation Site Entrance

A general construction traffic entrance for the Proposed 220kV Loop-in Substation complex will be constructed off of the L99997 local road in the townland of Graigue (Access Point 8). This entrance will be used as the main entrance for construction traffic throughout the construction phase of the substation. Swept path analysis and a preliminary junction design have been undertaken based on the largest vehicle which would require access to the substation i.e. the transformer delivery vehicle.

On completion of the construction phase, the access arrangement will be reduced to the permanent works only and used as an operational entrance for inspection and maintenance of the substation when required. The access will just be used by small vehicles on an infrequent basis.

Additional Junction Upgrades

Cross road junctions on the minor road network will be upgraded at locations 4, 5 and 6 on Plate 15-5 to facilitate movement of general construction traffic and abnormal load vehicles within the Site. Two new junctions will be created at location 4. At locations 5 and 6, one existing junction will be upgraded, and one new junction will be created. Drawings indicating the proposed upgrades are provided in Appendix 15-2. It is noted that the crossroad junctions will be used by vehicles travelling across the minor roads and will not involve vehicles turning from the minor roads.

Location 7 on Plate 15-5 indicates the junction of the R671 and the L99997. This junction will be upgraded to provide suitable visibility splays and access for transformer delivery vehicles. In order to minimise the volume of rock to be removed at this location, it is proposed that the transformer delivery vehicle would arrive via the R671 from the south and pull past the junction where the towing vehicle would be reconfigured to draw the load back to the access junction without the need to turn the load itself.

Drawings for all proposed accesses are provided in Appendix 15-2.

15.1.3.2 Construction Traffic

15.1.3.2.1 Construction Programme and Works

A detailed description of the proposed construction process for the Proposed Project is provided in Chapter 4: '*Description of the Proposed Project*'. Construction of the Proposed Project is anticipated to commence in 2029. The construction programme is estimated to take 18 to 24 months from commencement of civil works to commissioning of the turbines. For the purpose of providing a robust assessment, the shortest potential construction period of 18 months has been assumed in this chapter.

Construction of the Proposed Project will require the import of construction materials and plant to the Site. The majority of materials will be transported to the Site in standard HGVs. Projections of potential construction traffic volumes associated with the Proposed Project have been compiled based on project specific information, information from similar projects and SYSTRA's professional experience.

Approximately 13.5km of new access roads and turbine hardstanding will be constructed, along with approximately 8.9km of existing roads which would be upgraded to serve the Proposed Project.

Ready mixed concrete will be imported to the Site and no on-site batching of concrete is proposed. Concrete for turbine bases is required to be installed in one continuous pour, and it is typical for one turbine base to be poured per day. Each turbine base would require approximately 117 deliveries of concrete. On the 23 days during which the turbine base concrete pouring occurs, all other construction traffic movements would be kept to a minimum.

Five borrow pits are proposed which are expected to supply close to the full volume of required stone for construction of the Proposed Project. Details of borrow pit assessments can be found in Chapter 4: ‘Description of the Proposed Project’. In order to provide a robust assessment, 10% of the required stone volume has been assumed to be imported to the Site from local quarries.

Six construction compounds are proposed which would be fenced and secured with locked gates if necessary. Upon decommissioning of the Proposed Project, the construction compounds will be allowed to vegetate naturally.

Approximately 69.27 hectares of forestry require to be felled to facilitate construction of the Proposed Project, and for the purpose of assessment, 10 HGV movements have been assumed per hectare of felling.

As described in Chapter 4, Section 4.3.2.1, of the EIAR, construction of the Proposed 110kV Underground Cabling Route will involve progressive trench excavation, duct installation, backfilling and reinstatement along sections of public road and off-road alignment. Temporary traffic management measures will be required to facilitate these works on sections along the public road network.

It is proposed to underground a 1,230m section of the existing Dungarvan-Foxhole 38kV overhead line (OHL) to facilitate the Proposed Wind Farm. The route for the 38kV underground electrical cabling will be installed within a new access track across agricultural lands. These works would not impact the public road network.

The estimated construction traffic generation also includes traffic associated with the construction of the two proposed substations, the proposed 110kV and 220kV underground electrical cabling works and the two proposed 220kV end masts, as detailed in Chapter 4: ‘Description of the Proposed Project’.

15.1.3.2.2 **Construction Hours**

Construction activities will be carried out during normal daytime working hours of 0700 to 1900hrs Monday to Saturday. However, to ensure that optimal use is made of good weather, or at critical periods within the programme (for example concrete pours) or to accommodate delivery of large turbine components along public roads, it may be necessary on occasion to work outside of these hours. Any such out of hours working will be agreed in advance with the Local Authority.

15.1.3.2.3 **Construction Materials and Traffic Movements**

The potential number of traffic movements required per construction task of the Proposed Project are set out in Table 15-9 whilst Table 15-10 indicates the distribution of traffic movements across the construction programme.

Table 15-9. Construction Traffic Estimates

Construction Task	Vehicle Type	Approximate No. of Loads
Site Establishment	Low Loader and Dump Truck	200
General site deliveries	Low Loader and Dump Truck	300

Construction Task	Vehicle Type	Approximate No. of Loads
Forestry removal	Articulated Low Loader	690
Imported stone	Dump Truck	3,364
Reinforcement	Low Loader	65
Concrete	Concrete Wagon	3,438
Cabling and sand	Low Loader	650
Geotextile separators	Low Loader	45
HV electrical items	Dump Truck	75
Sub-stations	Various	200
Cranes and related lifting equipment	Crane Vehicle	60
Turbine components	Abnormal Loads	230
Proposed Grid Connection	Various	1,254
Site reinstatement and restoration	Various	150
Total One Way Movements		10,721
Total Two Way Movements		21,442

Table 15-10. Indicative HGV and Abnormal Load Deliveries Over 18 Month Construction Programme

Construction Task	Month																		Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Site Establishment	60	70	70																200
General site deliveries	17	17	17	17	17	17	17	17	17	17	17	17	16	16	16	16	16	16	300
Forestry removal	69	69	69	69	69	69	69	69	69	69									690
Imported stone	500	500	500	500	482	482	80	80	80	20	20	20	20	20	20	20	20		3,364
Reinforcement										12	12	11	10	10	10				65
Concrete		50	50	50	57	80	80	80	80	897	897	897	80	80	60				3,438
Cabling and sand						130	130	130	130	130									650
Geotextile separators				12	11	11	11												45
HV electrical items						20	20	18	17										75
Sub-stations						50	50	50	50										200
Cranes and related lifting equipment												30	30						60
Turbine components												39	39	38	38	38	38		230
Grid connection	65	65	90	90	90	90	90	90	90	90	90	90	90	69	65				1,254

Construction Task	Month																		Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Site reinstatement and restoration																50	50	50	150
Total One Way	711	771	796	738	726	949	547	534	533	1235	1,036	1,104	285	233	209	124	124	66	10,721
Total Two Way	1,422	1,542	1,592	1,476	1,452	1,898	1,094	1,068	1,066	2,470	2,072	2,208	570	466	418	248	248	132	21,442

Peak and Average Daily Movements

Based on the indicative programme outlined in Table 15-10, the peak months of construction traffic generation are likely to be months 10 to 12 when concrete for the turbine foundations is imported. Peak construction traffic generation is expected to occur on the 23 days when concrete for the turbine foundations is poured as construction methodology requires that each base is formed in one continuous pour. A total of approximately 117 concrete deliveries is expected to be required per turbine base. All other deliveries would be limited to essential only on concrete pour days to minimise impact on the surrounding road network. For the purpose of assessing a robust scenario, a peak of 125 inbound and 125 outbound HGV movements per day has been assumed.

Average daily HGV movements have been calculated across the full construction period for all HGV trips except the concrete import for the turbine foundations. The average daily HGV trips is expected to be approximately 19 inbound and 19 outbound per day.

Five borrow pits are proposed and are expected to supply close to the full volume of stone required for construction of the Proposed Project. For the purposes of a robust worst-case traffic assessment, it has conservatively been assumed that up to 10% of required stone may be imported from local quarries. In practice, if the borrow pits yield the anticipated stone volumes, the actual number of imported stone deliveries may be substantially lower and imported stone may not be required.

Workforce Vehicle Movements

During construction of the Proposed Project, it is estimated that 120 to 150 jobs would be created. It is estimated that there would be a peak workforce of approximately 100 personnel on site at any one time however, this would vary by construction task and is likely to be significantly lower towards the later stages of the construction phase. Assuming a robust scenario of two personnel travelling to Site per vehicle this would equate to 50 inbound and 50 outbound vehicle movements per day. Measures would be included in the Traffic Management Plan to increase workforce vehicle occupancy and minimise vehicle movements.

15.1.3.2.4 Construction Traffic Distribution

As detailed in Chapter 4: *Description of the Proposed Project*, it is intended that all general construction traffic and abnormal loads associated with the construction of the Proposed Wind Farm will access the Site via the N25/L2024 junction. Only construction traffic associated with the Proposed Grid Connection will route via the R671. For the purpose of providing a robust assessment of potential traffic impact and associated environmental effects, 100% of all construction traffic has been applied to the N25/L2024 route and 10% of construction traffic has been applied to the R671, to represent traffic associated with construction of the Proposed 220kV Loop-In Substation and the western extent of the Site.

At this stage the location of specific quarries which would be used for import of stone (if required) or suppliers of concrete is unknown, but it can be assumed that access for these deliveries would be taken via the N25 and L2024 route. Details of the actual sources of materials would be specified in the final TMP.

15.1.3.3 Operational Traffic

Once the Proposed Project is operational, the Site will be largely autonomous and the volume of traffic generated will be minimal, relating to maintenance only. The Proposed Grid Connection is also only expected to generate a minimal volume of occasional maintenance trips. Maintenance trips would

generally be carried out in car or LGVs. In the event that a larger turbine component requires replacing then work would be carried out in agreement with Waterford City and County Council. The effect of vehicle movements during the operational phase of the Proposed Project including the grid connection can be concluded to be imperceptible.

15.1.3.4 Decommissioning Traffic

Upon reaching the end of its operational lifespan, the Proposed Wind Farm will undergo decommissioning.

Upon decommissioning of the Proposed Wind Farm, the Proposed Turbines, telecoms relay mast and the meteorological mast will be disassembled in reverse order to how they were erected. The turbines will be disassembled with a similar model of crane that was used for their erection. All above ground turbine and mast components would be separated and removed off-site for recycling. Turbine and mast foundations would remain underground and would be covered with earth and allowed to revegetate. Leaving the foundations in-situ is considered a more environmentally prudent option, as to remove that volume of reinforced concrete from the ground could result in significant temporary environment nuisances such as noise, dust and/or vibration. Site roadways will be used during the operational phase by farm machinery and will provide a useful means of extracting the commercial forestry crop which exists at the Site and therefore will be retained post decommissioning to facilitate these activities.

The 33kV underground electrical cabling connecting the Proposed Turbines to the Proposed 110kV Substation will be removed from the cable ducts. The cabling will be pulled from the cable ducts using a mechanical winch which will extract the cable and re-roll it on to a cable drum. This will be undertaken at the original cable jointing pits which will be excavated using a mechanical excavator and will be fully re-instated once the cables are removed. The cable ducting will be left in-situ as it is considered the most environmentally prudent option, avoiding unnecessary excavation and soil disturbance. The cable materials will be transferred to a suitable recycling or recovery facility.

The Proposed 110kV Substation and, Proposed 110kV Underground Cabling Route, the 38kV underground electrical cabling and 38kV end masts, and the Proposed 220kV Loop-in Substation will remain in place as they will form part of the National Grid under the ownership and control of the ESBN and EirGrid.

Traffic generation associated with the decommissioning phase would generally be less than the construction phase. The highest traffic generating tasks of the construction phase are the importation of stone and concrete for access tracks and turbine foundations, which are generally left in-situ after decommissioning. Therefore, these trips would not apply to the decommissioning phase.

15.1.4 Likely and Significant Effects

15.1.4.1 Do Nothing Scenario

If the Proposed Project was not implemented, then it is likely that there would be no significant changes to the traffic and transport situation in the vicinity of the Proposed Project, other than changes to background traffic as a result of general traffic growth and any nearby committed developments.

If the Proposed Project were not to proceed, the opportunity to capture part of County Waterford'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.

15.1.4.2 Potential Effects – Construction Phase

This section identifies the potential effects of the construction phase on the existing road network and the traffic capacity of that road network. Effects have been considered separately for peak and average general construction traffic. Effects associated with the transport of abnormal load vehicles on the TDR are considered separately in Section 15.1.4.2.2.

Potential effects are considered for the following traffic and transport receptors:

- Study area road links; and
- Users of the study area road links.

15.1.4.2.1 General Construction Traffic Effect on Study Area Road Links

The principal receptors considered in relation to general construction traffic effects are the public road links and their users. Receptor sensitivity varies according to the function, character and baseline traffic conditions of each route. The N25 is considered to be of low to medium sensitivity as a strategic national road designed to accommodate substantial traffic volumes including HGV traffic. The R671 is considered to be of medium sensitivity as a regional route with moderate baseline traffic levels. The L2024 and other local roads serving the Site are considered to be of medium to high sensitivity due to their rural local-road function, narrow geometry, low baseline traffic volumes and the greater sensitivity of local road users and adjacent residents to temporary increases in construction and HGV traffic.

Peak Construction Traffic

Table 15-11 indicates the potential daily percentage increases in traffic flows associated with the construction of the Proposed Project on road links within the study area during the peak concrete pouring days. Peak traffic movements would not impact the R671 as concrete deliveries for the turbine bases would travel via the N25 and L2024 so R671 movements are reported as average movements. The percentage of the theoretical road capacity likely to be utilised on peak concrete import days is also stated.

Table 15-11. Peak Construction Traffic Effect on Study Area Road Links on Concrete Pour Days

	2029 ADT	TII Capacity	Peak Construction Total	% Increase Total	% Increase HGV	Percentage Capacity Utilised
1 N25	8910	11,600	350	4%	20%	80%
2 L2024	183	1,000	350	191%	1607%	53%
3 R671	1218	5,000	14	1%	3%	25%

Table 15-11 indicates that on the N25, the potential increase in total traffic during peak concrete pouring could reach 4% and the percentage increase in HGV traffic could reach 20%. On the L2024 the percentage increase in total traffic during peak concrete pour days could reach 191% and the increase in HGV traffic could reach 1,607%.

The large percentage increases indicated in both total and HGV traffic on the L2024 are largely due to the very low baseline traffic volume on the road. In absolute terms, however, the forecast traffic volume remains within the assumed capacity of the road. Table 15-11 indicates that the L2024 would still be operating at approximately 53% capacity during the peak concrete import days. The peak traffic generating days would occur only on the 23 turbine foundation concrete pour days during the 18-month construction period and all other construction-related traffic movements would be restricted to essential traffic only on those days. With regard to the L2024, the majority of concrete deliveries would utilise the main site access and would therefore only travel a relatively short section of the road between the N25 junction and the main access point.

In assessing significance, account has been taken not only of the percentage increase in traffic but also of the sensitivity of each road link, its traffic function, the absolute traffic volumes involved and the temporary duration of the effect. While the N25 experiences an increase in HGV traffic during peak construction, it is a strategic national route with substantial baseline traffic and residual capacity and is therefore of lower sensitivity to temporary construction traffic increases than the local road network. By contrast, the L2024 is a rural local road of medium to high sensitivity, and although the forecast traffic volume remains within assumed capacity, the temporary increase in HGV activity would be more noticeable to road users and adjacent residents.

Table 2.2 of PE-PDV-02045 sets out advisory thresholds for assessment where national roads are affected, including:

- 100 trips in / out combined in the peak hours for the proposed development;
- Development traffic exceeds 10% of turning movements at junctions with and on National Roads; and
- Development traffic exceeds 5% of turning movements at junctions with National Roads if location has potential to become congested or sensitive.

The total daily development traffic on peak concrete pour days is forecast to comprise approximately 250 HGV movements and 100 workforce-related light vehicle movements. However, these trips would not occur within a single peak hour. Workforce vehicle arrivals and departures would generally occur outside the network commuter peaks, and concrete deliveries would be distributed throughout the working day and, where necessary, outside standard daytime hours. Accordingly, the number of development trips in any one peak hour is not expected to exceed 100.

The traffic survey data was interrogated to establish the AM and PM peak hour total turning movements at the N25/L2024 junction. In the absence of a confirmed contractor delivery schedule, a conservative assumption has been applied that up to 25% of the peak daily construction traffic could occur within each of the AM and PM peak hours. In practice, deliveries would be managed to avoid concentration during network peak periods. The use of 25% in each peak hour therefore represents a robust assessment assumption.

Table 15-12. Peak Construction Traffic Percentage Impact at N25 Junction

Peak Hour	Total Vehicle Turning Movements	25% of Peak daily construction traffic (includes HGV and workforce traffic)	Development percentage of total turning movements at junction
AM Peak Hour 08:00 – 09:00	1,340	88	7%
PM Peak Hour 16:00 – 17:00	1,438	88	6%

Table 15-12 indicates that when 25% of the peak total daily construction traffic is assessed against the existing peak-hour movements at the N25/L2024 junction, the percentage increase remains below 10%.

Given the very low baseline traffic volumes on the L2024, it is unlikely that the L2024/N25 junction would become a congested or sensitive location.

The peak construction traffic assessment indicates that the surrounding road network has capacity to accommodate the peak temporary increase in traffic associated with the 23 no. turbine foundation concrete pour days. Taking account of receptor sensitivity, magnitude of traffic change, available capacity and the temporary duration of the effect, peak general construction traffic effects are considered to be slight negative on the N25, negligible to slight negative on the R671, and moderate negative on the L2024. Peak construction traffic effects would be temporary on all road links. Overall, peak construction traffic effects are considered to be slight to moderate, negative and temporary.

Average Construction Traffic

Table 15-13 presents the potential average daily percentage increases in traffic flows associated with the construction of the Proposed Project on road links within the study area outside the peak concrete pouring days.

Table 15-13. Average Construction Traffic Effect on Study Area Road Links

	2029 ADT	TII Capacity	Average Construction Total	% Increase Total	% Increase HGV	Percentage Capacity Utilised
1 N25	8,910	11,600	137	2%	3%	78%
2 L2024	183	1,000	137	75%	240%	32%
3 R671	1,218	5,000	14	1%	3%	25%

Table 15-13 indicates that on the N25, the increase in total traffic could reach 2% and the increase in HGV traffic could reach 3%. On the L2024 the increase in total traffic could reach 75% and the increase in HGV traffic could reach 240%. On the R671 the increase in total traffic could reach 1% and the increase in HGV traffic could reach 3%.

As with the peak traffic assessment, the large percentage increases on the L2024 are primarily a function of the low baseline traffic volume on this road. An increase of 37 HGVs per day would equate to approximately 3 HGVs per hour assuming a 12-hour working day. Table 15-13 indicates that the L2024 would be operating at only 32% capacity when average daily construction traffic is taken into account, indicating that the road can accommodate the short-term increase in traffic within the existing assumed capacity. The average construction traffic effect has been calculated on the basis of 50 inbound and 50 outbound workforce vehicle movements per day; however, this is considered to represent a robust maximum and may be lower during some stages of the construction period.

In significance terms, the N25 and R671 are of lower sensitivity than the local roads due to their strategic and regional transport functions respectively, and the forecast increases in traffic on these roads are limited in scale. The L2024 remains the most sensitive route to average construction traffic change due to its local road function, low baseline traffic and rural character, although the absolute increase in traffic remains low in capacity terms and would be temporary in duration.

The assessment of average construction traffic indicates that the surrounding road network has sufficient capacity to accommodate the temporary increase in traffic associated with the Proposed Project. Taking account of receptor sensitivity, magnitude of change and duration, average general construction traffic effects are considered to be negligible negative and short term on the N25 and R671 and slight negative and short term on the L2024. Overall, average construction traffic effects are considered to be negligible to slight, negative and short term.

15.1.4.2.2

Turbine Delivery Route Effects

The delivery of turbine components to the Site are likely to be made in convoys of three at a time, and at night when roads are quietest. Convoys will be accompanied by Garda escort at the front and rear operating a “stop and go” system. Although the turbine delivery vehicles are large, they will not prevent other road users or emergency vehicles passing, should the need arise. The delivery escort vehicles will ensure the turbine transport is carried out in a safe and efficient manner with minimal delay or inconvenience for other road users. Signage will be installed to provide existing road users with advance notice of upcoming abnormal load deliveries.

It is not anticipated that any section of the public road network will be closed during transport of turbines, although there may be some delays to local traffic at pinch points. All deliveries comprising abnormally large loads where required will be made outside the normal peak traffic periods, usually at night, to avoid disruption to work and school-related traffic.

As indicated in Table 15-10, there are likely to be approximately 230 abnormal load deliveries over a six-month period. The movement of abnormal loads will be outside of the peak construction traffic generating activities such as turbine foundation concrete deliveries. Assuming a maximum of 39 inbound abnormal load vehicle trips per month this equates to approximately 9 inbound abnormal load vehicle trips per week. It is anticipated that three abnormal load deliveries would occur on three nights of the week over the six month period. Abnormal load vehicles will retract to the size of an HGV for their return journey once the loads have been delivered to the destination, therefore this equates to 9 inbound abnormal load trips plus 9 outbound HGV trips per week over the six month turbine delivery period.

Any required mitigation measures or interventions to facilitate the movement of abnormal loads are identified within the Abnormal Loads Assessment report contained within Appendix 15-2.

Due to the mitigation measures which would be implemented to facilitate delivery of the abnormal loads such as escort, advance warning of deliveries, signage, and off-peak timing, the potential disruption to existing road users during abnormal loads deliveries on the TDR is considered slight negative and effects would be temporary and only occur during deliveries.

15.1.4.2.3

110kV Underground Electrical Cabling Route Effects

As described in Chapter 4: ‘*Description of the Proposed Project*’, construction of the Proposed 110kV Underground Cabling Route will involve progressive trench excavation, duct installation, backfilling and reinstatement along sections of public road and off-road alignment. The works will include route scanning and utility checks in advance of excavation, excavation by mechanical plant, temporary stockpiling of excavated or removed surfacing material, placement of bedding material, installation of ducts, backfilling, compaction and final reinstatement. Temporary traffic management measures will therefore be required to facilitate the works on sections of the public road network.

The initial section of the Proposed 110kV Underground Cabling Route runs north for approximately 262m through an existing site road towards the L2024. Construction of this section will have no effect on road users as it does not affect the public road network. From this point, the route follows the L2024 for approximately 1.55km, the L2021 for approximately 5.2km, the R671 for approximately 900m and the L99997 for approximately 180m before traversing agricultural pasture for approximately 788m to the Proposed 220kV Loop-in Substation.

The potential transport effects associated with the Proposed 110kV Underground Cabling Route arise not from high daily traffic generation, but from the temporary occupation of sections of the road corridor and/or verge during trenching and duct installation works. These activities have the potential to restrict carriageway width, require temporary traffic control, delay road users and affect access arrangements to adjoining properties and lands for short periods as the works progress.

The most notable effects are likely to arise on the L2024 and L2021 due to the narrow width of these local roads, their limited verge widths and the restricted opportunities for traffic to pass works areas. On these roads, temporary traffic management and, where necessary, short-duration local diversions or controlled access arrangements may be required to safely accommodate the trenching and reinstatement works. However, the baseline traffic flows on these roads are very low and the Proposed 110kV Underground Cabling Route works will be undertaken progressively, such that no one location will be affected for the full duration of the Proposed 110kV Underground Cabling Route construction period.

Along the R671, there is potential for temporary delay to existing road users during trenching and reinstatement works. However, as the R671 is a regional road with a wider carriageway than the local roads, it is expected that the effects will generally be limited to temporary traffic management, lane control and short-duration delay, rather than full route obstruction. Along the L99997, effects will be limited in extent and will principally affect access to the small number of adjacent landholdings and properties. In these areas, appropriate local access arrangements will be maintained during construction.

The sensitivity of receptors along the Proposed 110kV Underground Cabling Route is considered to be low to medium, reflecting the very low baseline traffic volumes on the local roads, the limited number of affected receptors in some sections, and the greater sensitivity of local road users and adjacent landowners to temporary access restrictions and road occupation. The magnitude of effect is considered greatest on the L2024 and L2021, where trenching works within the road corridor have the greatest potential to temporarily alter traffic conditions and access arrangements.

Taking account of the temporary, progressive and localised nature of the works, and subject to the implementation of appropriate traffic management and access measures through the Traffic Management Plan, the effects of the Proposed 110kV Underground Cabling Route construction works on road users and local access arrangements are considered to be slight to moderate negative and temporary during the construction phase.

15.1.4.3 **Potential Effects – Operational Phase**

As discussed in Section 15.1.3.3, traffic associated with the operational phase of the Proposed Project on the surrounding area and road network will be minimal and generally limited to car or LGV for maintenance purposes only, anticipated to in the region of on to two daily visits, therefore the effect of operational phase traffic can be considered imperceptible.

15.1.4.4 **Potential Effects – Decommissioning Phase**

As discussed in Section 15.1.3.4, traffic associated with decommissioning would be considerably less than generated during construction as many aspects such as turbine foundations and hardstanding areas would be left in-situ. The highest traffic generating activities associated with the construction phase such as import of stone and concrete would not be required for decommissioning. The traffic effects of the decommissioning phase can be considered to be slight, negative and temporary.

15.1.5 **Mitigation Measures**

A Construction Traffic Management Plan (TMP) will be prepared and implemented for the Proposed Project. The TMP will be finalised by the appointed contractor in consultation with Waterford City and County Council and, where necessary, An Garda Síochána, prior to commencement of construction works. A TMP is included at Appendix 15-3.

The TMP will identify measures to reduce the number of construction vehicles, as well as measures to mitigate the impact of vehicles. The TMP will identify the programme of works, the agreed routes to Site and details of a Site Liaison Officer who will have responsibilities for managing traffic and transport

impacts and effects. The TMP will also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. Measures provided in the TMP could include (but are not limited to);

- Details of the construction programme and construction traffic types and volumes per months of the construction programme;
- Details of site working hours;
- No routine HGV deliveries will be scheduled during weekday network peak periods or local school start and finish periods, unless otherwise agreed in advance with Waterford City and County Council and An Garda Síochána;
- Approved haul routes would be identified and protocols put in place to ensure that HGVs adhere to these routes;
- Details of access arrangements for all deliveries, operatives and visitors to the Site will be specified, including parking arrangements;
- Details of logistics infrastructure such as unloading areas, welfare facilities, car parking and storage compounds;
- All contractors would be provided with a site induction pack containing information on delivery routes and any restrictions on routes;
- All Site visitors will undergo a Site induction covering Health and Safety issues at the Contractor's temporary compound and will be required to wear appropriate Personal Protective Equipment (PPE) while onsite;
- All contractors would be required to give details of proposed timing of material deliveries to the Site and would be given a specific area for delivery;
- The construction material 'lay down' areas would allow for a staggered delivery schedule throughout the day, avoiding peak and unsociable hours (i.e. before 6am and after 10pm);
- Under no circumstances would HGVs be allowed to lay-up on surrounding roads;
- Details of the site liaison would be provided to all relevant stakeholders;
- Temporary construction site signage would be erected along the identified construction traffic routes in accordance with the 'Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works' and 'Guidance for the Control and Management of Traffic at Roadworks';
- The TMP will include specific measures for delivery of turbine components via abnormally large vehicles including details of a trial run using vehicles with similar dimensions at dates and times agreed with the relevant authorities;
- Abnormal load deliveries will be undertaken outside peak traffic periods and subject to detailed delivery scheduling, escort arrangements and advance stakeholder notification procedures;
- Temporary traffic management measures associated with the Proposed Project including the Proposed 110kV Underground Cabling Route works will be agreed with Waterford City and County Council in advance of construction and will maintain access to properties, farms and emergency services insofar as reasonably practicable;
- All personnel in the team would be in contact with each other and with Site management, who in turn would have mobile and telephone contact with the subcontractors;
- The TMP and the control measures therein would be included within all trade contractor tender enquiries to ensure early understanding and acceptance/compliance with the rules that would be enforced on this project;
- Measures to maintain roads in a clean and safe condition such as sheeting of vehicles and wheel washing and/or road cleaning measures as appropriate; and
- A pre and post construction inspection of the roads would be carried out and their condition recorded. Timings would be agreed with the relevant authorities.

The TMP would ensure that there is signage along the construction routes to make residents aware of the additional HGV traffic and to provide the opportunity to plan ahead. The TMP would ensure that construction HGVs do not travel during peak periods or at the start/end of the school day and that they

adhere to a lowered speed limits if applicable. Each of these measures would contribute to minimising the level of effect experienced by local residents and road users.

15.1.6 Residual Effects

Construction Stage

Following implementation of the proposed mitigation measures and the TMP, residual construction traffic effects on the N25 and R671 are expected to be negligible negative and temporary. On the L2024, residual construction traffic effects are expected to be slight negative and temporary.

Residual effects associated with the Proposed 110kV Underground Cabling Route works are expected to comprise temporary local delay and access management effects during trenching and reinstatement works. Following implementation of the proposed mitigation measures and temporary traffic management procedures, these residual effects are expected to be slight negative and temporary, and not significant.

Operational Stage

Traffic associated with the operational phase of the Proposed Project will be minimal and limited to periodic maintenance access. Operational residual traffic effects will therefore be not significant.

Decommissioning Stage

Traffic associated with the decommissioning phase would be lower than during construction and would be subject to similar traffic management controls. Residual decommissioning traffic effects are therefore expected to be slight negative and temporary.

15.1.7 Cumulative Effects

Cumulative traffic and transport effects have been assessed with reference to other relevant developments and infrastructure projects that may utilise sections of the same road network during overlapping construction periods. The assessment adopts a conservative approach and assumes, where relevant, that peak construction periods could overlap. In practice, construction programming may differ and liaison between developers would reduce the potential for concurrent peak traffic events.

The potential for cumulative effects has been assessed by reviewing traffic data available from the Traffic and Transport Chapters within the respective EIARs for the relevant developments. Whilst the developments identified may share a similar route for abnormal load vehicles, these deliveries would not be permitted to occur at the same time and as such there is no scope for a cumulative effect of abnormal load movements.

Knocknamona Wind Farm – Permitted

Knocknamona Windfarm is a proposal for an eight-turbine windfarm including electrical substation and all associated works in the townlands of Knocknamona, County Waterford. The windfarm was previously permitted in 2016 and again in 2022 and is now seeking permission to increase the previously authorised turbine size by 4 metres in overall height from 155 metres to 159 metres. Knocknamona Wind Farm proposes to utilise the N25 and L2024 for access and therefore cumulative transport effects are possible if construction of the two developments was to coincide.

Information contained within Chapter 16: Material Assets of the Proposed Knocknamona Wind Farm 2026 EIAR indicates that the peak construction traffic associated with Knocknamona Wind farm is six

inbound or 12 two way HGV movements per day and the development is anticipated to have a 52 week construction programme.

If the peak construction period of the permitted Knocknamona Wind Farm were to overlap with the peak construction period of the Proposed Project, the cumulative increase in traffic would remain within the available capacity of the N25 and would only marginally increase the proportion of assumed capacity utilised on the L2024. The N25 would continue to function as a strategic national route with substantial residual capacity, while the L2024 would remain within its assumed capacity.

Construction traffic for both developments would be managed through project-specific TMPs. Should overlapping construction periods arise, liaison between the respective developers and contractors would further reduce the likelihood of concurrent peak traffic events such as concrete pours or stone import. On this basis, cumulative traffic and transport effects with Knocknamona Wind Farm are assessed as slight negative and temporary.

Lyrenacarriga Wind Farm – Permitted

Lyrenacarriga Wind Farm is a 17 turbine development which would utilise the N25 national road for construction traffic access but would not utilise any of the local roads proposed to be used for access to the Proposed Project such as the L2024. The N25 is a strategic national route designed to accommodate significant HGV traffic and has considerable reserve capacity. The peak HGV traffic associated with Lyrenacarriga Wind Farm is 180 two way HGV movements per day which could be accommodated by the N25 in addition to the peak construction traffic from the Proposed Project with no significant cumulative effects. Cumulative construction effects with Lyrenacarriga Wind Farm are therefore considered to be not significant.

Scart Mountain Wind Farm – Proposed

Scart Mountain Wind Farm is a proposed 15 turbine development located 4km northeast of Cappoquin in Co Waterford. The Scart Mountain development would be accessed via the N72 and local roads to the north of the N72 including a section of the R671 and the L1027 therefore the development does not share construction traffic routes with the Proposed Project and cumulative effects are unlikely.

Moanbrack Wind Farm – Proposed

Moanbrack Wind farm is a proposed wind farm comprising two turbines which would be sited adjacent to two existing turbines in the Gaeltacht area of An Rinn and An Sean Phobal in Co Waterford. An application has not yet been submitted. The development is situated south of the N25 and therefore the only potential overlap of construction traffic routes would be the N25 which has sufficient residual capacity to accommodate the construction traffic associated with a two turbine development in addition to the Proposed Project, in the unlikely event that the peak construction phases were to overlap. Cumulative effects with Moanbrack Wind Farm are therefore unlikely.

Solar Farm at Modeligo, Cappoquin – Proposed

An application was submitted in June 2026 for a proposed solar PV farm located generally to the north of the N72, east of Cappoquin, west of Cappagh, south of Modeligo. Construction traffic will route to the Site via the N72 therefore the development does not share construction traffic routes with the Proposed Project and cumulative effects are unlikely.

Large Scale Developments South of N25

The following three large scale developments have been identified as potential cumulative developments:

- Davitts Quay and TF Meagher Street, Dungarvan – Proposed
- Residential Development Youghal - Proposed
- Extension to Solar Farm at Youghal Mudlands – Permitted

All three developments are located south of the N25 therefore the only potential overlap of construction traffic routes would be the N25 which has sufficient residual capacity to accommodate a short term temporary increase in traffic volumes, in the unlikely event that the peak construction phases were to overlap. Cumulative effects with these developments are therefore considered unlikely.

15.2 Telecommunications and Aviation

15.2.1 Introduction

This section of the EIAR assesses the likely significant effects of the Proposed Project on telecommunications and aviation assets.

The full description of the Proposed Project, including proposed turbine locations and elevations, is provided in Chapter 4: Description of the Proposed Project of this EIAR.

Section 15.2.2 describes the way in which wind turbines can potentially interfere with telecommunications signals or aviation activities. Section 15.2.4 presents details on how such effects will be avoided, with the likely significant effects assessed (and mitigation measures proposed) in Section 15.2.5.

15.2.1.1 Statement of Authority

This section of the EIAR has been drafted by Michéal Cahill with support from Sophie O'Rourke and reviewed by Eoin McCarthy, all of MKO.

Michéal Cahill is an Environmental Scientist with MKO with over 2 years' experience in environmental consultancy. Michéal holds a first-class honours degree as a Bachelor of Environmental Science at University of Galway and was awarded the Professor Emer Colleran Medal for his academic achievements. Michéal has previous experience in the preparation and review of Environmental Impact Assessment Reports for both offshore and onshore wind farm projects, as well as aiding in the research and design phase of a proposed pumped hydroelectric storage plant. As an environmental scientist within MKO's environmental renewables team, Michéal has been involved in the preparation and revision of several material assets chapters, as well as a variety of other chapters and reports for a range of energy infrastructure projects.

Sophie O'Rourke is an Environmental Scientist with MKO. Sophie holds a first-class honours master's degree in environmental science at Trinity College Dublin. As part of MKO's Renewables team, Sophie is involved with the production of EIARs for a variety of wind energy projects. Sophie's areas of expertise include environmental policy, high quality report writing, and geographic information systems.

Eoin is a Project Director within the Environment Renewables team of MKO with over 15 years of environmental consultancy experience. Eoin holds a B.Sc. (Hons) in Environmental Science from NUI, Galway. Eoin took up his position with McCarthy Keville O'Sullivan in June 2011. Eoin's key strengths and areas of expertise are in project management, environmental impact assessment, wind energy site selection and feasibility assessment. Since joining MKO, Eoin has progressed from Graduate to Senior level and has been heavily involved on a significant range of energy infrastructure, tourism, waste permit, flood relief scheme and quarrying projects. He has overseen the design phase and applications of some of the largest wind energy projects in Ireland. In his role as project manager, Eoin works with and co-ordinates large multidisciplinary teams including members from MKO's Environmental,

Planning, Ecological and Ornithological departments as well as sub-contractors from various fields in the preparation and production of EIARs. Eoin is also involved in the development of project strategy for the projects that he manages. He has held the role of project manager and EIAR co-ordinator on over 700MW worth of wind energy projects. Within MKO Eoin plays a large role in the management of and sharing of knowledge with junior members of staff and works as part of a large multi-disciplinary team to produce EIA Reports.

15.2.2 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 November 2024 in order to determine the presence of telecommunications links either traversing or in close proximity to the Proposed 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), which provides a recommended list of telecommunications operators for consultation. In addition to this, consultation was also carried out with Commission for Communications Regulation (ComReg) in order to identify any other additional licensed operators in the vicinity of the Proposed 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 2.7 of Chapter 2: Background to the Proposed Project of this EIAR. Consultation of telecommunications operators and aviation bodies informed the constraints study and Proposed Wind Farm design process, as described in Chapter 3 ‘*Consideration of Reasonable Alternatives*’, of the EIAR.

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.

15.2.2.1 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:

- 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)’);
 - With cognisance of 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*;
- Waterford City & County Development Plan 2022-2028; Background

15.2.2.2 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 the renewable energy development is directly in line with the transmitter radio path.

15.2.2.3 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.

15.2.2.4 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 to the Proposed Wind Farm site is Waterford Airport, located approximately 44km northeast of the closest Proposed Turbine (T6). Cork Airport, a large international airport, is located approximately 50.55km west of the closest Proposed Turbine (T22). The next nearest operational airport to the Proposed Wind Farm site is Kilkenny Airport which is located approximately 72.7km north-west of closest Proposed Turbine (T02), and the nearest operational airfield is Rathcoole Aerodrome, located approximately 83.2km southwest of the closest Proposed Turbine (T22).

All airports listed above are outside the range at which such issues would be expected, and as detailed in Table 15-33 below, the Irish Aviation Authority noted no issues with the Proposed Project however they issued observations relating to lighting requirements, as discussed in Section 15.2.3.3.

15.2.2.5 Electromagnetic Interference

Both the adopted 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 Proposed Project as summarised below in Table 15-33; full details are provided in Section 2.8 in Chapter 2: Background to the Proposed Project of this EIAR.

15.2.2.5.1 **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 15-6 reproduced from the 2017 ESB information booklet which demonstrates the alternating magnetic field of AC overhead lines and underground cables. As illustrated in Figure 15-6 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 $4\mu\text{T}$ to $0.5\mu\text{T}$ at 10m away from the cable, reducing to almost $0\mu\text{T}$ at 20m. EMF from 220kV overhead lines and underground cables diminishes quickly with distance from the potential impacted receptor, with EMF from overhead 220kV cables, diminishing from $7\mu\text{T}$ to $5\mu\text{T}$ at 10 m away from the cable and $2\mu\text{T}$ at 20 m away from the cable; EMF reduces to almost $0\mu\text{T}$ at 30 m. Similarly, magnetic field levels from substations share a similar trend that is discussed for underground cables above. A literature review entitled *“Literature review of electromagnetic fields (EMF) and human health, and an evidence base of EMF measurements from the Irish Transmission System”*², which was commissioned by EirGrid and prepared by RPS Group in July 2014 takes readings at various distances from 400/220/110kV substations. Again, this study found a consistent trend of magnetic field decreasing with distance, with levels being very weak at substation perimeters. It should also be noted that the report considers that magnetic fields were likely also influenced by overhead lines within the substation compound. While this study focuses on human health, the findings of a correlation between lateral distance and diminishing magnetic field strength from substations are applicable to signals. Furthermore, underground cable sheathing surrounding the electrical cabling will greatly reduce the potential for any electrical field above ground.

² Eirgrid (2014); ‘Literature review of electromagnetic fields (EMF) and human health, and an evidence base of EMF measurements from the Irish Transmission System.’

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

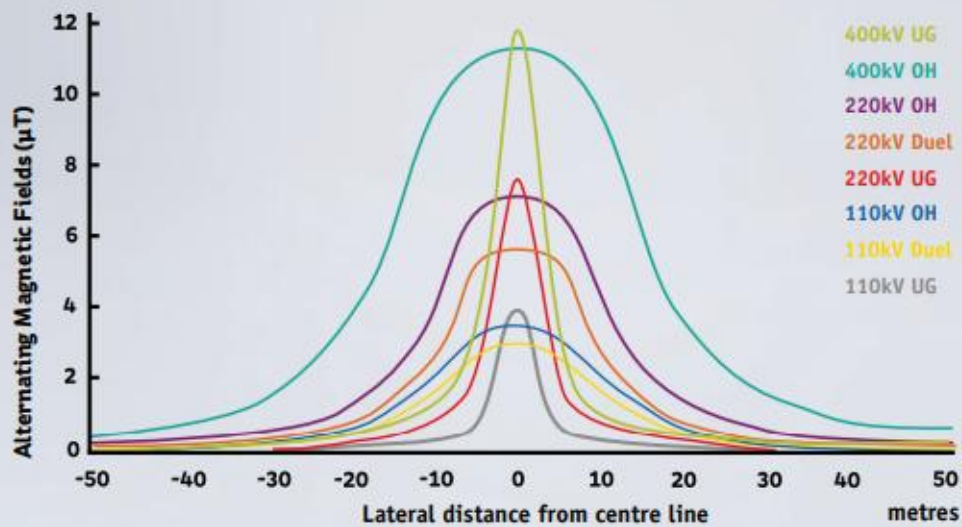


Figure C illustrates the magnetic field from overhead AC lines operating in Ireland. The field strength decreases with distance. The fields from these AC lines are far below the 1998 ICNIRP Guidelines for exposure to AC magnetic fields ($100\mu\text{T}$). In 2010 ICNIRP updated its ELF-EMF guidelines,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

Figure 15-6 Illustrates the magnetic field from overhead AC lines operating in Ireland

15.2.2.6 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. The Guidelines (DoEHLG, 2006) recommend contact with the Irish Aviation Authority (IAA) 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
- 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 Proposed Project as summarised below in Table 15-33; full details are provided in Section 2.7 of Chapter 2 of this EIAR.

15.2.3 Scoping and Consultation

As part of the EIAR scoping and consultation, MKO contacted the relevant national and regional broadcasters, fixed and mobile operators, aviation authorities and other relevant consultees up to four times between November 2024 and March 2025. Consultation was also carried out with ComReg in order to identify any other additional licenced operators in the vicinity of the Proposed Wind Farm site to be contacted, who may not have been on the list of main operators.

The responses received from the telecommunications and aviation consultees are summarised below in Table 15-14.

A full description of the scoping and consultation exercise is provided in Section 2.7 of Chapter 2 of this EIAR.

Table 15-14 Telecommunications and Aviation Scoping Responses

Consultee	Scoping Response Received date	Potential for Interference Following Consultation Exercise
2RN	21/11/2024	Yes - 3 no. links located within Proposed Wind Farm site. The potential impact is discussed below.
AirNav Ireland	No Response	N/A

BAI	21/11/2024	No
Cellnex	No Response	N/A
Dense air	No Response	N/A
Eir	20/11/2024	Yes - 4 no. links located within Proposed Wind Farm site. The potential impact is discussed below.
Electricity Supply Board	09/01/2025	Yes - 18 no. links located within Proposed Wind Farm site. The potential impact is discussed below.
Enet	21/11/2024	Yes - 4 no. links located within Proposed Wind Farm site. The potential impact is discussed below.
EOBO	No Response	N/A
FastCom Broadband	No Response	N/A
Hibernian towers	No Response	N/A
Imagine Networks Services	21/11/2024	No
Irish Rail	No Response	N/A
Irish Water	25/11/2024, 22/01/2025	No
Ivertec Ltd	21/11/2024	No
JFK Communications Ltd	No Response	N/A
JS Whizzy Internet Limited	10/01/2025	No
Lackabehe Services	21/11/2024	No
Meteor Mobile Communications	No Response	N/A
NBI Infrastructure DAC	04/12/2024	No
TETRA Ireland	No Response	N/A
The Irish Aviation Authority	07/07/2025	No
Three	10/01/2025	Yes - 3 no. links located within Proposed Wind Farm site. 1 no.

		link within 5km of the Proposed Wind Farm site. The potential impact is discussed below.
Towercom	No Response	N/A
Viatel Ireland Ltd	No Response	N/A
Virgin media	10/01/2025	Yes - 5 no. links located within Proposed Wind Farm site. The potential impact is discussed below.
Vodafone	22/11/2024	Yes - 8 no. links located within Proposed Wind Farm site. The potential impact is discussed below.
Western Broadband Network	21/11/2024	No

The scoping responses from the telecommunications and aviation consultees are described below. Relevant copies of scoping responses are provided in Appendix 2-1.

15.2.3.1 Broadcasters

There are two broadcasters operating in Ireland, RTE Transmission Network (operating as 2RN) and Virgin Media.

RTE/2RN

RTE Transmission Network (2RN) replied on 21st November 2024 to a scoping request from MKO, stating that they *“believe that this proposal has the potential to seriously affect our services in the area”*. 2RN identified three off-air links associated with the Dungarvan site, all of which would have the wind farm profile within their paths. These comprise the link between Dungarvan and Ferrypoint, which feeds the Ferrypoint DTT services, and links from Mullaghanish and Mt. Leinster, which supply DTT and FM services to the Dungarvan transmitters.

2RN requested that the second Fresnel zone be kept clear for these links and provided buffer zones for such. They also expressed concern regarding the high risk of interference to broadcast services in an arc to the south-east of the Proposed Project, along the coast between Helvick Upper and Youghal. 2RN noted that the combined coverage of the Dungarvan and Ferrypoint sites extends to approximately 183,000 viewers and up to 347,000 listeners and includes the Ring Gaeltacht area, where Irish-language services are of particular importance.

In further correspondence on the 29th of September 2026 2RN noted that the off-air links to Mullaghanish and Mt. Leinster would not be affected by the Proposed Wind Farm, but that the path between the Dungarvan and Ferrypoint sites passes close to Turbine 23. 2RN provided a TV Reception Analysis on the 7th of October 2026 (included as Appendix 15-5 of this EIAR) stating that the analysis shows a potential for Saorview TV coverage disruption/interference in the surrounding area, served by the Saorview transmitter site “Dungarvan”, located close to the Proposed Project (approx. 2km northwest of T1).

2RN go on to state that should the Proposed Project go ahead with the current layout and turbine details, remediation will be needed to ensure viewers are able to access free to air Irish national TV. 2RN provide 3 remediation measures that may be required which are briefly summarised below;

- Redirect viewers receiving antennas to an alternative Saorview transmission site.
- Provide alternative coverage from new/additional Saorview transmission sites.
- Provide access to Irish TV services from an alternative non-Saorview source. Alternative sources include:
 - a. Direct to home satellite (e.g. subscription Sky TV, noting that Saorsat – the free to air Irish satellite TV service will cease operation in early 2028)
 - b. TV via broadband

As recommended by 2RN, should the Proposed Project received a grant of planning permission, a detailed TV reception survey will be undertaken prior to the commencement of construction works on the Proposed Turbines (and subsequently post commissioning of the Proposed Turbines) in order to accurately predict the number of households which will be affected by the operation of the Proposed Turbines. Should the Proposed Turbines interfere with the TV reception of any household, the developer will employ the appropriate remediation measures provided by 2RN above.

Virgin Media

Virgin Media replied on the 10th of January 2025 to a scoping request from MKO regarding the Proposed Project identifying a 5 no. links in the vicinity of the Proposed Project. Following a request from MKO sent on the to confirm the required separation distance between turbine blade tips and the identified links, Virgin Media advised on the 13th of January that a setback distance of 50 metres either side of the centre beam should generally be maintained. The Proposed Project has been designed to maintain the required setback from the identified Virgin Media links.

15.2.3.2 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 of the influence of the Proposed Project, and therefore are not subject to any interference risk, or do not operate any links in the area.

Electricity Supply Board (ESB)

ESB Networks responded to the scoping request on the 9th of February 2025 providing the start and end coordinates of 18 no. radio links located within 5 km of the site, together with a KMZ file showing the applicable ‘coordination-zone’ boundary. In further correspondence dated 9th February 2025, ESB Networks advised that wind energy development within 1,000 m of a link operating below 1 GHz, or within 500 m of a link operating above 1 GHz, would require coordination. ESB Networks also identified an additional 500 m exclusion zone around most base-station sites, within which no development is permitted, although smaller turbines would be evaluated on a case-by-case basis. MKO attempted to contact ESB regarding a definition for the ‘coordination-zone’ on multiple occasions following the receipt of the ‘coordination-zone’ (10th of February 2025, 5th of March 2025, 20th of March 2025 and the 31st of March 2025), however, no response was received. As such, a telecommunications impact assessment on the ESB links was prepared by AiBridges Limited to ensure that the Proposed Project will not have any significant impacts on any ESB links and has been included as Appendix 15-6 of this EIAR.

Eir

Eir responded to a scoping request from MKO on the 20th of November and identified 4 no. transmission links within the area of the Proposed Wind Farm site that could be at risk from the Proposed Project. Eir requested that a 100 m radius buffer be maintained from each transmission path when siting the proposed turbines. The Proposed Turbines all lie outside of this buffer.

Enet

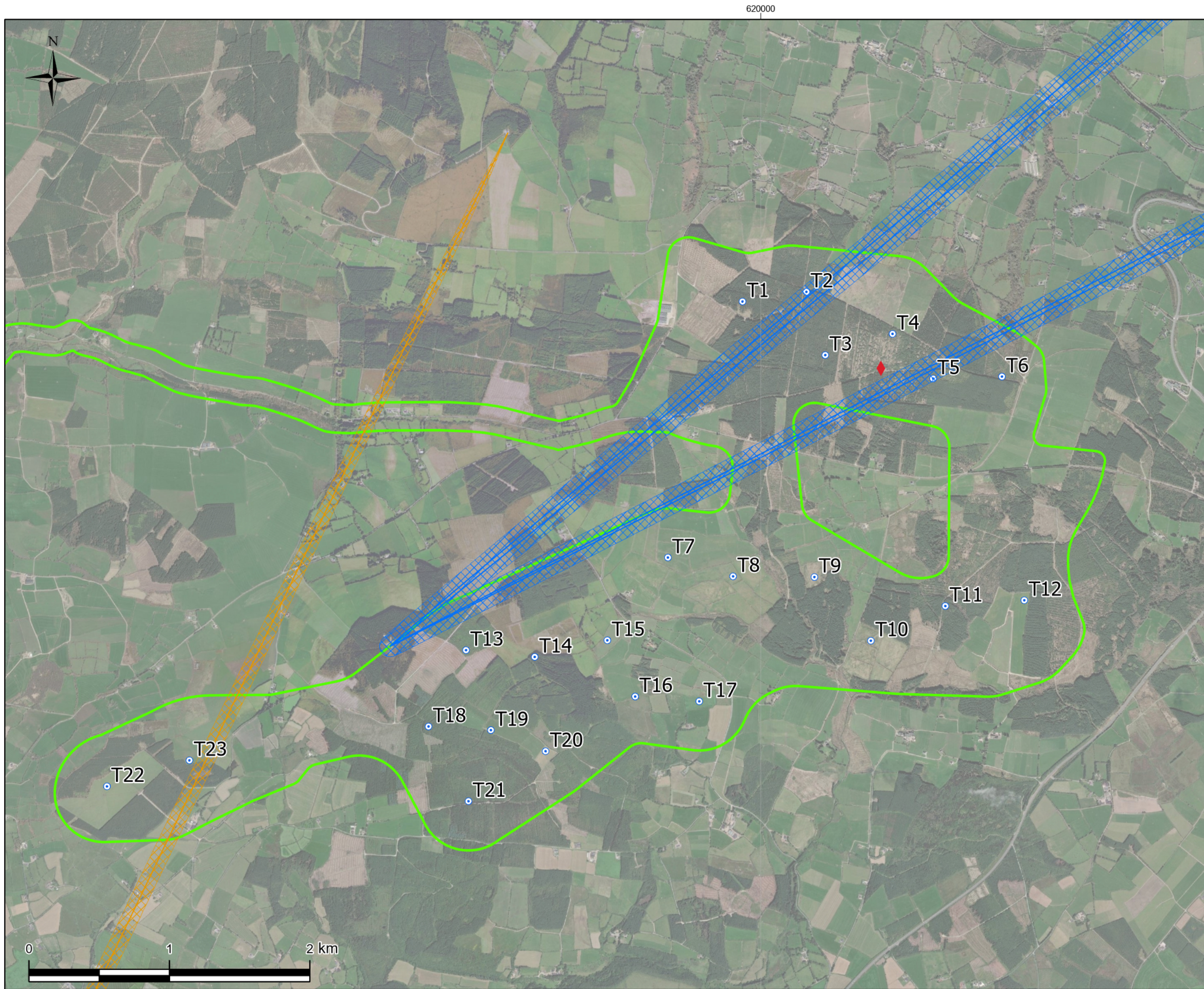
Enet responded to a scoping request from MKO on the 21st of November and identified 4 no. transmission links within the Proposed Wind Farm site that could be at risk from the development. The Proposed Turbines will not lie within the requested setback distances of 50m from the link.

Three

Three responded to a scoping request from MKO on the 10th of January 2025 and identified 3 no. transmission links that could potentially be affected by the Proposed Project, together with 1 no. additional transmission link located within 5 km of the Proposed Wind Farm site. Three specified a required setback distance of 50 m between turbine blade tips and the transmission links. Corrected coordinates for the mast site were provided on 14th of January 2025. The Proposed Turbines will all lie outside of the provided 50m setback distances.

Vodafone

Vodafone responded to a scoping request from MKO on the 22nd of November 2024 and identified a busy telecommunications site located on the edge of the site boundary. Vodafone provided details of 8 no. transmission links associated with Proposed Wind Farm site and advised that a clearance of at least 30 m from the first Fresnel zone is desired. The Proposed Turbines will not lie within the link specific setback buffers (i.e. 30m from the first Fresnel zone of each link).



Map Legend

- EIAR Site Boundary
- Proposed Project**
 - ◆ Proposed Telecommunications Relay Mast
- Telecom Links**
 - ESB Radio Links potentially impacted by Proposed Turbines
 - ▨ ESB Fresnel Zone
 - 2RN 'Dungarvan' Link
 - ▨ 2RN Fresnel Zone

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

EIAR Site Boundary - NOT TO SCALE

Drawing Title
Telecommunications Links with Potential to be Impacted

Project Title
Slievegrine Renewable Energy Development

Project No. 240740	Drawing No. 15-7	Scale 1:25,000
Drawn By SOR	Checked By NS	Date 08/10/2026

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15.2.3.3 Aviation

As noted in above, scoping responses were received from the following aviation consultees:

- > Irish Aviation Authority (IAA)
- > Department of Defence (DoD)

Pertinent information has been summarised below, however the scoping response in Appendix 2-1 should be referenced to for further detail. Whilst AirNav Ireland were contacted as part of the constraints and design scoping process, no response has been received by MKO to date. It should be noted that on the 3rd of September 2026, Dublin Airport Association (DAA) in consultation with AirNav identified no issues in relation to the Proposed Project.

Irish Aviation Authority

MKO contacted the IAA (the civil aviation regulator) and AirNav Ireland (the air navigation service provider of Ireland), in November 2024 and January 2025, respectively 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 Ireland to these initial requests.

As part of MKO's scoping consultation process (further detailed in Section 2.7 of Chapter 2: Background to the Proposed Project of the EIAR), a Scoping Document was prepared and circulated to relevant consultees in July 2025, which included the IAA and AirNav Ireland. The IAA responded to the Scoping Document on 7th of July 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."*

The IAA also recommended that the Applicant engage with Waterford Airport, AirNav Ireland, the relevant air navigation service provider (ANSP), the Department of Defence, the Irish Coast Guard Service and the search and rescue operator. This consultation was recommended to inform these organisations of the Proposed Project and to facilitate appropriate screening from an aviation safety perspective. The details on correspondence with other aviation related consultees is discussed below.

Department of Defence

The IAC Position Paper sets out the Air Corps position on the appropriate siting and management of wind farms and tall structures. The IAC Position Paper details Air Corps assets within which tall structures such as wind farms are not recommended and/or require early engagement with the Department of Defence (DoD).

The DoD was contacted by MKO in July 2025, a scoping response was received from the DoD on 16th July 2025, which provided the following observation:

"All turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be

operational H24/7 days a week. Obstacle lighting 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. Light intensity to be of similar value to that emitted in the visible spectrum of light”

The Applicant is agreeable to the proposed lighting requirements, should they be conditioned by the Commission.

International Airports

Cork Airport was contacted by MKO on the 1st of July 2025. Cork airport responded on the 4th of July 2025, requesting that the scoping consultation be redirected to Dublin Airport. MKO subsequently contacted Dublin Airport on the 16th of July 2025. A follow up scoping document was issued to Dublin Airport Ireland on the 10th of August 2026, informing the consultees of the changes to the Proposed Project, including final turbine coordinates and dimensions. The DAA, in consultation with AirNav, reviewed the proposal and provided comments stating that “no issues have been identified in relation to the proposed development” and that the DAA will undertake a further review of the application documentation once the application is formally submitted. This response is included in Appendix 2-1 of this EIAR.

Regional Airports

MKO contacted Waterford Airport on the 1st of July 2025 and the 10th of August 2026; however, no response has been received to date.

Irish Coast Guard

The Irish Coast Guard were contacted on the 30th of September to be made aware of the Proposed Project details. No response has been received to date.

Specialist Aviation Impact Assessment

Following the aviation scoping and consultation exercise, Cyrrus Limited was commissioned to undertake a specialist aviation assessment of the Proposed Wind Farm. The resulting Aviation Statement is included as Appendix 15-7 of this EIAR.

The Aviation Statement concludes that the Proposed Wind Farm occupies a location with a low potential for effects on aviation, being situated within Class G uncontrolled airspace with sufficient unrestricted airspace available above and around the Proposed Wind Farm site for aircraft operating in accordance with applicable flight rules. The Proposed Wind Farm is not located within an airspace ‘choke-point’ and allows pilots more than enough space to deviate around the Proposed Wind Farm rather than overfly it, should they wish to.

Cyrrus also considered potential effects on military aviation. The Proposed Wind Farm is located a significant distance from Military Operating Areas and low-flying training areas. Although the Proposed Wind Farm is located within 3 nautical miles of the N25, no concern regarding the proximity of the Proposed Wind Farm to the national road network was raised by the Department of Defence during consultation.

The Aviation Statement considered the potential for effects on meteorological radar and identified that the Met Éireann weather radar installations at Dublin and Shannon Airports are approximately 180 km and 108 km respectively from the Proposed Wind Farm and are at no risk of being impacted.

15.2.4 Telecommunications Impact Assessment

Following scoping and consultation exercises undertaken by MKO in November 2024, AI Bridges Limited was commissioned to prepare a Telecommunications Impact Assessment (TIA) for the Proposed Wind Farm in relation to ESB Networks' point-to-point (PTP) microwave and point-to-multipoint (PMP) UHF radio-link networks. The TIA which is included as Appendix 15-6, details the field surveys, desktop surveys and radio-network modelling undertaken to determine whether ESB Networks' radio links crossing over or passing near the Proposed Wind Farm site would be affected. It should be noted while the assessment considered a layout comprising 24 no. turbines, the finalised turbine layout for the Proposed Wind Farm contains only 23 no. turbines. Regardless, both turbines (T2 and T5) that have the potential for impacts on telecommunications have not changed locations between both layout iterations.

As identified in Section 15.2.3.1 in response to the telecoms scoping exercise, ESB Networks advised that turbines situated within 1,000 m of a radio link operating below 1 GHz, or within 500 m of a radio link operating above 1 GHz, would require detailed coordination.

To assess the ESB Networks' point-to-point (PTP) microwave and point-to-multipoint (PMP) UHF radio-link networks in the vicinity of the Proposed Wind Farm site, AI Bridges undertook field surveys in the area surrounding the Proposed Wind Farm site. The field survey map and survey results are presented in Section 4.1 of Appendix 15-6 of this EIAR. Following field surveys and a review of the information supplied by ESB Networks, 3 no. PTP microwave radio links and 15 no. PMP UHF radio links crossing were identified over or passing near the Proposed Wind Farm site. The field surveys also established that ESB Networks' PTP and PMP radio links were installed on the same telecommunications mast at Carrondavderg. The surveys found that 2 no. PTP dishes previously aligned from Carrondavderg towards Cheek Point had been decommissioned, leaving 1 no. operational PTP link along that route.

Using the field-survey information and consultation responses, 2D and 3D modelling of the ESB Networks radio-link network was undertaken. For PTP microwave links operating above 1 GHz, the analysis assessed clearance from the full first Fresnel zone. For PMP UHF links operating below 1 GHz, clearance from 60% of the first Fresnel zone was assessed. The analysis found that 2 no. radio links would be affected by the turbine layout assessed in the TIA and would require mitigation. Turbine T05 would obstruct the first Fresnel zone of the PTP microwave link between Carrondavderg and Cheek Point, identified as ESB_PTP3, by 13.98 m. Turbine T02 would obstruct the first Fresnel zone of the PMP UHF link between Carrondavderg and Cooltubbrid West Solar Farm, identified as ESB_PMP12, by 32.61 m. No impacts were identified in respect of the remaining 16 no. radio links assessed.

For the affected PTP link between Carrondavderg and Cheek Point, 2 no. potential mitigation options were identified: rerouting the link through a relay mast located within the Proposed Wind Farm site or rerouting the radio connection with a fibre connection. Modelling of the potential relay links found clear lines of sight and indicated that the links would satisfy the radio-link availability criteria required by ComReg.

For the affected PMP link between Carrondavderg and Cooltubbrid West Solar Farm, 3 no. potential mitigation options were identified:

- Rerouting the link through a relay mast within the Proposed Wind Farm site;
- Relaying the PMP radio link through an existing ESB Networks mast, such as the mast at Kilmacthomas 38 kV Substation; or
- Rerouting the radio connection with a fibre connection.

Further technical analysis and consultation with ESB Networks would be required to establish whether the proposed mitigation solutions are technically feasible and acceptable to ESB Networks.

The Proposed Wind Farm includes for a telecommunications relay mast at the ITM coordinates 620854 589081, which Appendix 15-6 has demonstrated is a suitable mitigation measure to ensure no significant impact on the PTP/PMP links will occur.

15.2.5 Likely Significant Effects and Associated Mitigation Measures

The below assessment evaluates the impact (where there is the potential for an impact to occur) on telecommunications and aviation during the construction, operation and decommissioning phases of the Proposed Project.

15.2.5.1 'Do Nothing' Scenario

If the Proposed Project were not to proceed, there would be no change to existing telecommunications and aviation operations in the area.

The opportunity to capture part of Waterford'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. The opportunity to generate local employment and investment and to diversify the local economy would be lost.

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

15.2.5.2 Construction Phase

The potential for electromagnetic interference from the Proposed Project may only occur during the operational phase. There are no electromagnetic interference impacts for telecommunications and aviation assets or operations associated with the construction phase of the Proposed Project, and therefore no mitigation is required. Whilst potential impacts during turbine erection and commissioning of the Proposed Wind Farm are construction phase activities are possible, they are assessed in the operational phase impact assessment below as their impacts more closely aligned with regards to this Chapter (Section 15.2.5.3 below).

15.2.5.3 Operational Phase

15.2.5.3.1 Telecommunications

Pre-Mitigation Effect

Proposed Wind Farm

Consultation regarding the potential for electromagnetic interference from the Proposed Project was carried out with the relevant national and regional broadcasters, fixed line and mobile telephone operators and other operators. ESB was identified as an operator with links that have potential to be impacted by the Proposed Turbines with 2 no. links affected. 2RN also noted that there was potential for Saorview TV coverage disruption/interference in the surrounding area. The potential pre-mitigation effect on both ESB and 2RN are Long-term, Significant, Direct and Negative. No other links within or in the vicinity of the Proposed Wind Farm site will be impacted by the operation of the Proposed Turbines. Therefore, the potential pre-mitigation impact on telecommunications as a result of the

Proposed Project will be a Long-term, Moderate, Direct, Negative impact on telecommunications in the absence of mitigation.

Proposed Grid Connection

None identified.

Mitigation Measures

Prior to the operational phase of the Proposed Wind Farm, a testing exercise will be carried out to determine there are no impacts on any radio links which traverse the Proposed Wind Farm site. As outlined in Appendix 15-6 and Section 15.2.4 above, a series of mitigation measures are technically feasible and implementable in the event that there is an impact on a link. It is anticipated that the 2 ESB links with potential to be affected by the Proposed Turbines will be relayed off of the proposed relay mast within the north of the Proposed Wind Farm site.

Furthermore, regarding the affected 2RN Saorview TV link, a TV reception survey will be undertaken prior to the commencement of construction works on the Proposed Turbines (and subsequently post commissioning of the Proposed Turbines) in order to accurately predict the number of households which will be affected by the operation of the Proposed Turbines. Should any household require remediation works, the remediation measures outlined in Section 15.2.3.1 above and detailed in Appendix 15-5 shall be chosen as appropriate.

Residual Effect

The Proposed Project will not have any residual effect on telecommunications, due to the rerouting of the 2 ESB links from the Proposed Turbines swept path and Saorview TV remediation works for any households impacted by the operation of the Proposed Turbines. Furthermore, all setback distances for all other links within the Proposed Wind Farm site and surrounds have been adhered to; therefore the residual effect will be Long Term, Imperceptible, Negative, and Indirect.

Significance of Effect

The effect on telecommunications from the Proposed Project during the operational phase is not considered to be significant.

15.2.5.3.2 **Aviation**

Pre-Mitigation Effect

Proposed Wind Farm

There are no IAA or DoD assets within the Proposed Wind Farm site or surrounds that may be impacted by the Proposed Turbines. No aviation concerns were identified by any regional or international airports as discussed in Section 15.2.3.3 above.

As stated within Appendix 15-7 'Aviation Review Statement' the Proposed Wind Farm is located within Class G uncontrolled Airspace. Pilots have adequate space to fly above or around the Proposed Wind Farm. Without adequate turbine lighting, there is a very low chance of collision between aircraft and the Proposed Turbines, however, should a collision event occur, this would result in a Permanent, Profound, Negative, Direct and Unlikely effect.

Proposed Grid Connection

None identified.

Mitigation Measures

The following IAA and DoD requests will be complied with should the Proposed Project be consented:

Irish Aviation Authority

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

Department of Defence

All turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week. Obstacle lighting 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. Light intensity to be of similar value to that emitted in the visible spectrum of light.

Residual Effect

The Proposed Project will have a Long-term, Imperceptible, Negative, Direct residual effect on aviation assets.

Significance of Effects

The effect on aviation assets from the Proposed Project during the operational phase is not considered to be significant.

15.2.5.4 Decommissioning Phase

As construction will be completed, elements of the project that will be developed as a temporary facilitator will either be removed, restored to its original condition, or will naturally revegetate; i.e., construction compounds.

It is intended that decommissioning process will remove all the remaining elements i.e., above ground components and underground cabling from the Proposed Wind Farm, and reinstate areas where infrastructure is removed. The following elements will be decommissioned:

- Wind turbines and Met Mast: dismantling and removal off site;
- Turbine, Met Mast and Telecommunications Relay Mast foundation: Turbine and met mast foundation backfilling following dismantling and removal of above ground structures (foundations that protrude above ground level will be backfilled with soil - underground reinforced concrete remaining in-situ);
- Internal Underground cabling: removal (ducting remaining).

The removal of the above shall not have any significant impact on telecommunications nor aviation. From an aviation perspective, the Site will largely return to the current baseline (i.e. absence of tall vertical structures). All access roads and hardstanding areas forming part of a site roadway network will be required by the ongoing farming operations and therefore will be left in situ for future use.

The Proposed 110kV Substation and associated 110kV underground electrical cabling along with the Proposed 220kV Loop-in Substation, proposed 220kV underground cabling and proposed 220kV end masts, will remain in place as they will form part of the National Grid under the ownership and control of the ESBN and EirGrid. As stated in Section 15.2.2.5 above, the potential for electromagnetic interference from wind turbines and associated infrastructure occurs only during the operational phase of the Proposed Project, and magnetic interference from substations and electrical cabling is extremely weak.

There will therefore be no significant impact arising from electromagnetic interference during the decommissioning phase of the Proposed Project, and therefore no mitigation is required.

15.2.5.5 Cumulative Effects

Chapter 2, Section 2.9 of this EIAR describes the methodology used in compiling the list of permitted or proposed projects and plans in the area, (wind energy or otherwise) considered in the assessment of cumulative effects, and provides a description of each project, including current status, and is set out in Section 2.9 in Chapter 2 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.

As outlined above in Section 15.5.3.2, the Proposed Project will have no residual impact on aviation given its location and all lighting requirements will be met by the Applicant.

Therefore, there will be no cumulative effects relating to the Proposed Project and surrounding projects in relation to telecommunications or aviation.

15.3 Other Material Assets

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

15.3.1 Methodology and Guidance

The methodology for this assessment includes:

- Scoping exercise with stakeholders;
- Desk study, including review of available maps and published information followed by mapping of constraints;
- Likely Significant Effects and Mitigation Measures

Consultation with all statutory consultees, bodies with environmental responsibility and other interested parties is detailed in Chapter 2 of the EIAR. Scoping was undertaken in line with Section 3.3 'Scoping' of EPA, 2022 on the information to be contained in EIARs.

15.3.2 Scoping and Consultation

In order to assess the potential for significant effects on built services and waste management in the vicinity of the Site, two rounds of scoping requests were made to EirGrid, Uisce Éireann, and numerous

sections of Waterford City & County Council, including the Roads Department and Environment Department, once in July 2025 and again in August 2026, Please refer to Section 2.7 of Chapter 2: Background to the Proposed Project of this EIAR for details in relation to the EIA scoping exercise.

No scoping response was received from EirGrid on either round of scoping. A scoping response was received from Waterford City & County Council Environmental Department stating that the scoping document was forward to the relevant official in July 2025; no further response was received. An out of office email response was received from Uisce Éireann on the 1st of July 2025 and no further response was received. A scoping and consultation exercise was conducted with utilities operators, as outlined in Section 15.3.2.1 below. A full description of the scoping and consultation exercise is provided in Section 2.7 of Chapter 2 of this EIAR.

15.3.2.1 Utilities

Uisce Éireann

A scoping request was sent to Uisce Éireann (UE) in July 2025, an out of office reply was received and no further communication was received.

A data request was sent to UE on the 1st of May 2026 requesting PDF maps of any UE assets within the EIAR Site Boundary. A Sewer Network Map and a Water Distribution Map was provided on the 14th of May 2026. Whilst no sewer networks are located within the Site, the Proposed 110kV Underground Cabling Route will cross a 2" uPVC pipe. The Proposed Project will not directly interact with any UE assets and all crossings will be below UE assets. Should pre-commencement site investigations determine a crossing may need to be above an UE asset this will be agreed in writing prior to the works taking place.

Gas Networks Ireland (GNI)

GNI supply MKO their latest infrastructure data quarterly. The latest data share illustrating all GNI infrastructure was provided to MKO in Q2 2026. The data indicates that there is no GNI infrastructure located within or adjacent to the Site with the nearest infrastructure being approximately 50km to the northeast of the Proposed Project.

15.3.3 Baseline Environment

15.3.3.1 Existing and Built Services and Utilities

The Proposed Project has been designed to avoid identified services and utilities insofar as possible, however, in order to facilitate the Proposed Turbines, it is necessary to reroute a section of the existing 38kV Foxhole-Dungarvan overhead line underground. It is also proposed to break into the existing 220kV Knockraha-Cullenagh 220kV overhead line to facilitate the connection of the Proposed Project to the national grid. Neither works will permanently impact the functioning of these assets. To facilitate these works, the lines will be temporarily switched off during the rerouting works. 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 Proposed Project. The construction of the Proposed 110kV Underground Cabling Route would also be subject to a Road Opening Licence (ROL). The timing of these works would therefore be controlled by the ROL process with the relevant Local Authority.

15.3.3.1.1 Electricity

Grid Infrastructure

The existing Dungarvan-Foxhole 38kV overhead line (OHL) intersects the Proposed Wind Farm site, passing between T22 and T23 at the south of the site and passing to the west of T1 at the north of the Proposed Wind Farm site. The Dungarvan-Foxhole 38kV OHL also crosses the Proposed Grid Connection site at 1 no. location. It is proposed to construct a 220kV underground cabling connection between the Proposed 220kV Loop-in Substation and the existing 220kV Knockraha to Cullenagh OHL.

15.3.3.1.2 Gas

A data request was sent to Gas Networks Ireland in 2025. The data returned in Q2 2026 concluded there are no gas pipelines within or near the Site.

15.3.3.1.3 Water

There are no surface water or groundwater abstractions used for public water supply purposes within or downslope/downgradient of the Site. The nearest source of public water supply is the Dungarvan public water supply, which is several kilometres away and outside any subcatchments that are linked with the Site. The Proposed Project will not interact with any Uisce Éireann assets.

There are several groundwater wells at farms and dwellings within the Site which are used for private and farm water supplies. Data on depths and well construction details are lacking, but private wells can be expected to be tens of metres deep. As discussed in Section 9.4.3.10 of Chapter 9 'Hydrology & Hydrogeology' of this EIAR, no significant effects on public or private water supplies are anticipated.

15.3.3.1.4 Motorways

The Proposed Project will not interfere with or traverse any motorways within or surrounding the Site.

15.3.3.1.5 Railways

The Proposed Project will not cross any existing or known railway lines within or surrounding the Site.

15.3.3.2 Waste Management Services

There are no EPA-licensed or local authority-authorised waste facilities or activities located within the Site. The closest, authorised municipal waste facility is located approximately 6km northeast of the nearest Proposed Turbine (T04) at Dungarvan, Co. Waterford.

15.3.4 Likely Significant Effects and Associated Mitigation Measures

15.3.4.1 'Do-Nothing' Scenario

If the Proposed Project were not to proceed, the potential to impact on other material assets would not arise.

The opportunity to capture part of Waterford'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. The opportunity to generate local employment and investment and to diversify the local economy would be lost.

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

15.3.4.2 Construction Phase

15.3.4.2.1 Existing Built Services

Pre-Mitigation Impact

Proposed Wind Farm

Electricity

The existing Dungarvan-Foxhole 38kV overhead line (OHL) intersects the Proposed Wind Farm site. Under a precautionary approach a Short-term, Slight, Negative, Direct impact, on the overhead line has been identified due to potential interference or breakage during the construction phase. Working in the vicinity of overhead lines, in the absence of the correct safety measures and procedures has the potential to have a short-term significant, negative impact on health and safety.

Gas

There are no underground gas lines within the Proposed Wind Farm site and, therefore, there is no potential for the Proposed Wind Farm to give rise to effects on underground gas infrastructure.

Water

The sensitivity of the abstractions referred to in Section 15.3.3.1.3 to surface water quality fluctuations (mainly turbidity) means effects of the construction phase of the Proposed Project has the potential to be Short term, Moderate, Negative effect which is not Significant.

Motorways

The Proposed Wind Farm will not interfere or traverse any motorways within or surrounding the Site.

Railways

The Proposed Wind Farm will not cross any existing or known railway lines within or surrounding the Site.

Proposed Grid Connection

Electricity

It is proposed to construct a 220kV underground cabling connection between the Proposed 220kV Loop-in Substation and the existing 220kV Knockraha-Cullenagh OHL. The route of the 220kV underground cabling will be approximately 560m in length and will be located adjacent to the Proposed 220kV Loop-in Substation primarily within proposed new access roads. The existing 220kV OHL will be broken by 2 no. new lattice-type end masts to facilitate the connection to the Proposed 220kV Loop-in Substation via the proposed underground electrical cabling.

On a precautionary basis, the potential for interference with or damage to the existing OHL during the construction phase is considered to result in a Short-term, Slight, Negative, effect, which is not significant. In addition, construction works undertaken in the vicinity of the existing OHL in the

absence of appropriate safety measures and procedures have the potential to result in a Short-term, Significant, Negative, Direct effect on health and safety.

Gas

There are no gas pipelines within or near the Site.

Motorway

The Proposed Grid Connection will not interfere with or traverse any motorways within or surrounding the Site.

Railway

The Proposed Grid Connection will not cross any existing or known railway lines within or surrounding the Site.

Mitigation

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 Proposed Project will not give rise to any significant effects on underground electrical cables and built services within the Site. The mitigation measures include the following:

- The existing overhead lines will be de-energised by ESB so work can commence on the construction of the towers.
- The suitability of machinery and equipment for use near power lines will be risk assessed.
- All staff will be trained on the routes and operating voltages of overhead electricity lines running above the Site. All staff will be trained to be aware of the risks associated with overhead lines. All contractors that may visit the sites are made aware of the location of lines before they come on to site.
- Barriers will run parallel to the overhead line at a minimum horizontal distance of 6 metres on plan from the nearest overhead line conductor wire.
- Prior to the delivery of turbines to the Proposed Wind Farm site, a dry run of the route using vehicles with similar dimensions will occur.
- When activities must be carried out beneath overhead lines, e.g. component delivery or grid cable laying, 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 is undertaken 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 will be erected in canteens and on site.
- 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 the site Health and Safety Plan.
- All health and safety measures as detailed in Section 5 of the CEMP and Chapter 5 Population and Human Health will be adhered to during the construction, operation and decommissioning phases.
- 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 the standard construction codes of practice in relation to working around electricity, gas, water, sewage and telecommunications networks.
- Prior to construction, the Applicant will engage with GNI via the 'Dial Before You Dig' procedure online. GNI will be contacted on 1800 42 77 47 **before** excavating near the identified high-pressure pipeline.
- In advance of any construction activity, the contractor will undertake pre-commencement surveys to confirm the presence or otherwise of any services such as water supplies. If found to be present, the relevant service provider will be consulted with in order to determine the requirement for specific excavation or relocation methods and to schedule a suitable time to carry out works.
 - Whilst the Proposed 110kV Underground Cabling Route is not predicted to interact with Uisce Éireann assets, should it not be possible to be cross and water main by undercrossing or overcrossing, the water supply will be turned off by the utility so work can commence on diverting the service. The section of existing pipe will be removed and will be replaced with a new pipe along the new alignment of the service. The works will be carried out in accordance with the utility standards

Residual Effect

Following the implementation of the above mitigation measures, there will be a Short-term Imperceptible Negative Direct residual effect during the construction phase of the Proposed Project (Proposed Wind Farm and Proposed Grid Connection) on existing built services.

Significance of Effects

The effect on existing built services from the Proposed Project during the construction phase is considered not significant.

15.3.4.2.2 **Waste Management**

Pre-Mitigation Impact

Construction waste will arise as a result of the Proposed Project mainly from excavation and unavoidable construction waste including material surpluses and damaged materials and packaging waste. Full details of wastes expected to be generated are detailed with the Waste Management Plan (WMP) of the CEMP (Appendix 4-3 of this EIAR). In the absence of measures outlined in the WMP, impacts to the waste management services during the construction phase is considered to have a negative, moderate, short-term impact, which is Not Significant.

Mitigation Measures

A Waste Management Plan (WMP) has been prepared and forms part of the 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 Proposed Project. 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 Proposed Project. 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 Site during the operational phase of the Proposed Project as only a small number of operational and maintenance personnel will be present within the Proposed Project at certain times. The waste material, inclusive of oil if required, 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.

All waste generated on site during the construction phase will be contained in a waste skip at a waste storage area on site. This waste storage area will be kept tidy with skips clearly labelled to indicate the allowable material to be disposed of therein. All staff welfare facilities, such as onsite canteen facilities shall be kept tidy and food waste shall be immediately into suitable enclosed receptacles with secure/tight-fitting lids to prevent attracting rodents and other pest species. Accumulations of waste, timber, packaging and other materials capable of providing harbourage for rodents will not be permitted. Should the need arise, a pest/vermin control plan shall be prepared prior or during the construction works.

The expected waste volumes generated on site are unlikely to be large enough to warrant source segregation at the site. A limited amount of fuel will have to be stored in appropriately banded containers and a designated area for oil storage will be constructed within the construction compounds. 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 personal waste be brought on site for disposal in the onsite waste skip. It will also be made clear that the burning of waste material on site is forbidden.

Where evidence of infestation is identified, appropriate control measures will be implemented by a suitably trained pest-control professional.

Further details on waste management are presented in Section 3.8 of the CEMP, which is included as Appendix 4-3 of this EIAR.

Residual Effects

With the implementation of the above measures, the residual effect is considered to be a Negative, Short-term, Slight, Direct effect on waste management services during the construction phase.

Significance of Effects

The effect on waste management from the Proposed Project during the construction phase is considered not significant.

15.3.4.3 Operational Phase

15.3.4.3.1 Existing Built Services

There will be no operational phase impacts or associated effects on built services associated with the Proposed Project. The Proposed Project will have an installed capacity of 145.2MW (based on 6MW and 7.2 MW turbine models) which has potential to produce 445,183 MWh of electricity. This would be sufficient to supply approximately 106,000 Irish households with electricity per year during its operational phase. The Proposed Project will therefore have a Positive, Moderate, Long-term, Direct effect on built services.

15.3.4.3.2 **Waste Management**

There will be no operational phase impacts or associated effects on waste management associated with the Proposed Project. It is not anticipated that any significant volume of waste will be generated within the Site during the operational phase of the Proposed Project as only a small number of operational and maintenance personnel will be present within the Proposed Wind Farm site at certain times. Any waste generated due to the operation and maintenance of the Proposed Project will be disposed of in a covered skip, located within the Proposed 110kV Substation compound. A limited amount of fuel will have to be stored in appropriately bundled containers and a designated area for oil storage will be constructed within the construction compounds. Substation transformers (which will be appropriately bundled) may require replacement during the operation period of the Proposed Project. The oil will not require routine replacement at prescribed intervals; however, where testing identifies deterioration or contamination, the oil may be replaced. Any waste transformer oil arising from maintenance activities will be removed from site and managed by an appropriately authorised waste contractor. Should oil changes be required the waste material, inclusive of oil, 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.

15.3.4.4 **Decommissioning Phase**

The Proposed Turbines are expected to have an operational period of approximately 35 years. Following the end of their useful life, the Proposed Turbines may be replaced with a new set of turbines, subject to planning permission being obtained, or the Proposed Wind Farm will be decommissioned fully as described in Section 4.11 of Chapter 4 and the accompanying Decommissioning Plan in Appendix 4-6.

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, given the Proposed 110kV Underground Cabling Route and both the 110kV and 220kV substation will be left in-situ. Based on the assessment outlined above in Section 15.3.4.2, there will be no significant effects on existing and built services, or waste management as part of the decommissioning phase.

15.3.4.5 **Cumulative Impact Assessment**

The potential cumulative impact of the Proposed Project and other relevant developments has been carried out with the purpose of identifying what influence the Proposed Project 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 Proposed Project of this EIAR.

On the basis of the assessment above, the Proposed Project 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, Negative cumulative impact on built services and waste management from construction of the Proposed Project 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 operational and decommissioning phases of the Proposed Project.

15.4 Difficulties Encountered

No difficulties were encountered in the preparation of this Chapter of the EIAR.

15.5 EIA Classification Summaries

Table 15-14: EIA Classification Summary - Traffic

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Proposed Wind Farm - Construction Phase				
General Construction Traffic on N25	Peak construction traffic: Slight, Negative, Temporary. Average construction traffic: Negligible, Negative, Short-term.	Section 15.1.5	Negligible, Negative, Temporary	Not Significant
General Construction Traffic on L2024	Peak construction traffic: Moderate, Negative, Temporary. Average construction traffic: Slight, Negative, Short-term.	Section 15.1.5	Slight, Negative, Temporary	Not Significant
Turbine Delivery Route Effects	Slight, Negative, Temporary	Section 15.1.5	Slight, Negative, Temporary	Not Significant
Road Users and Local Residents	Slight to Moderate, Negative, Temporary	Section 15.1.5	Slight, Negative, Temporary	Not Significant
Proposed Wind Farm – Operational Phase				
Traffic and Transport	Imperceptible	None Required	No Residual Effect	Not Significant
Proposed Wind Farm – Decommissioning Phase				
Traffic and Transport	The potential impacts associated with decommissioning	N/A	Slight, Negative, Temporary	Not Significant

	of the Proposed Project will be similar to those associated with construction but of a reduced magnitude, as the highest traffic generating activities associated with construction, such as importation of stone and concrete, would not be required.			
Proposed Grid Connection- Construction Phase				
General Construction Traffic on R671	Negligible to Slight, Negative, Temporary	Section 15.1.5	Negligible, Negative, Temporary	Not Significant
110kV Underground Cabling Route Works	Slight to Moderate, Negative, Temporary	Section 15.1.5	Slight, Negative, Temporary	Not Significant
Road Users and Local Access Arrangements	Slight to Moderate, Negative, Temporary	Section 15.1.5	Slight, Negative, Temporary	Not Significant
220kV Loop-in Substation Access / Transformer Delivery	Slight, Negative, Temporary	Section 15.1.5	Slight, Negative, Temporary	Not Significant
Proposed Grid Connection- Operational Phase				
Traffic and Transport	Imperceptible	None required	No Residual Effect	Not Significant
Proposed Grid Connection- Decommissioning Phase				
Traffic and Transport	No decommissioning traffic impact is anticipated for the principal grid connection infrastructure, as the Proposed 110kV Substation, Proposed 110kV Underground	N/A	No Residual Effect	Not Significant

	Cabling Route, 38kV underground electrical cabling and 38kV end masts, and the Proposed 220kV Loop-in Substation will remain in place as part of the National Grid under the ownership and control of ESBN and EirGrid.			
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Table 15-15: EIA Classification Table - Telecommunications and Aviation

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Proposed Wind Farm – Construction Phase				
Telecommunications and aviation	No electromagnetic interference effects identified during construction; turbine erection/commissioning considered under operational phase.	None required	No construction-phase electromagnetic interference effect identified.	Not Significant
Proposed Wind Farm – Operational Phase				
Telecommunications – ESB Networks and 2RN	Long-term, Significant, Direct, Negative for the affected ESB links and 2RN reception; Overall telecommunications : Long-term, Moderate, Direct, Negative.	Sections 15.2.4 and 15.2.5.3.1	Long-term, Imperceptible, Negative, Indirect.	Not Significant
Aviation	Potential collision without adequate lighting; Permanent,	Section 15.2.5.3.2	Long-term, Imperceptible, Negative, Direct.	Not Significant

	Profound, Negative, Direct, Unlikely.			
Proposed Wind Farm – Decommissioning Phase				
Telecommunications and aviation	Removal of turbines and above-ground structures; no significant effects identified.	None required	No significant effect anticipated.	Not Significant
Proposed Grid Connection – All Phases				
Telecommunications and aviation	No effects identified during construction or operation; retained grid assets have no significant decommissioning electromagnetic interference effect.	None required (Sections 15.2.5.2–15.2.5.4)	No significant effect identified.	Not Significant

Table 15-16: EIA Classification Table - Other Material Assets

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Proposed Wind Farm – Construction Phase				
Existing built services – electricity	Short-term, Slight, Negative, Direct	Section 15.3.4.2.1;	Short-term, Imperceptible, Negative, Direct.	Not Significant
Health and Safety Related Impacts	Short-term, Significant, Negative			
Water supplies	Short-term, Moderate, Negative	Section 15.3.4.2.1;	Short-term, Imperceptible, Negative, Direct	Not Significant
Waste management	Short-term, Moderate, Negative.	Section 15.3.4.2.2; WMP in CEMP Appendix 4-3	Short-term, Slight, Negative, Direct.	Not Significant
Proposed Grid Connection – Construction Phase				
Existing built services – electricity	Short-term, Slight, Negative effect on existing 220kV overhead line; potential Short-	Section 15.3.4.2.1; CEMP Appendix 4-3	Short-term, Imperceptible, Negative, Direct.	Not Significant

	term, Significant, Negative, Direct health and safety effect without safeguards.			
Proposed Project – Operational Phase				
Existing built services / electricity generation	Positive, Moderate, Long-term, Direct effect	None required	Positive, Moderate, Long-term, Direct.	Positive effect (chapter does not explicitly assign significance)
Waste management	None Identified	Section 15.3.4.3.2	None identified.	Not Significant
Proposed Wind Farm – Decommissioning Phase				
Built services and waste management	Similar effects to construction, but of lesser magnitude.	Section 15.3.4.4;	None Identified	Not Significant
Proposed Grid Connection – Decommissioning Phase				
Built Services	None Identified	Section 15.3.4.4	None Identified	Not Significant
Waste management	None Identified	Section 15.3.4.4	None Identified	Not Significant