

Chapter 15 Material Assets

Slieveacurry Renewable
Energy Development,
Co. Clare

Environmental Impact Assessment
Report (EIAR)



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15. MATERIAL ASSETS

Material Assets are defined in the ‘*Guidelines on the Information to be contained in Environmental Impact Assessment Reports*’ (EPA, 2022) as ‘*built services and infrastructure. Traffic is included because in effect traffic consumes transport infrastructure*’. The cultural assets of Archaeology, Architectural and Cultural Heritage are addressed in Chapter 14 of this Environmental Impact Assessment Report (EIAR). Economic assets of natural heritage include non-renewable resources such as minerals or soils, and renewable resources such as wind and water. These assets are addressed in Chapter 8: Land, Soils and Geology, Chapter 9: Water, Chapter 10: Air Quality, and Chapter 11: Climate. Tourism and amenity resources, which are also considered material assets, are addressed in Chapter 5 Population and Human Health. The Population and Human Health chapter also addresses existing land-uses (economic assets), including forestry and agriculture.

This chapter of the EIAR addresses the likely significant effects of the Proposed Project on transportation infrastructure (Section 15.1 Traffic and Transport), on Telecommunications and Aviation (Section 15.2) and Other Material Assets (Section 15.3), which are economic assets of human origin. Waste Management is also considered within EPA, 2022 as part of Material Assets. EPA Waste Management pertaining to the construction, operation and decommissioning of the Proposed Project is summarised in Section 4.4.6 of Chapter 4 Description of the Proposed Project of the EIAR.

This chapter of the EIAR has been prepared in accordance with the requirements of the EIA legislation and guidance outlined in Chapter 1: Introduction.

As detailed in Section 1.1.2 in Chapter 1, for the purposes of this EIAR, the following references are used: the ‘Proposed Project’, the ‘Proposed Wind Farm Site’, the ‘Proposed Grid Connection Site’, ‘Proposed Enhancement Site’, and the ‘Site’. A detailed description of the Proposed Project is provided in Chapter 4 Description of the Proposed Project of this EIAR.

15.1 Traffic and Transport

15.1.1 Introduction

15.1.1.1 Background and Objectives

This section of the EIAR assesses the effects on roads, traffic and transport of the traffic movements that will be generated during the construction, operational and decommissioning phase of the Proposed Project.

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

The magnitude of the increase in traffic volumes experienced on the surrounding network is identified during the various construction stages of the Proposed Project. A traffic management plan is also provided, aimed at minimising the traffic impact on the local highway network (Appendix 15-2 Traffic Management Plan (TMP)).

15.1.1.2 Statement of Authority

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

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

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

15.1.1.3 Guidance and Legislation

This section of the EIAR has been completed in accordance with the EIA guidance set out in Section 1.3 of Chapter 1 Introduction. The assessment uses standard terminology to describe the likely significant effects associated with the Proposed Project. Further information on the classification of effects used in this assessment is presented in Section 1.8.2 of this EIAR.

15.1.1.4 Scoping and Consultation

The scope for this assessment has been informed by consultation with statutory consultees, bodies with environmental responsibility and other interested parties as outlined in Section 2.7 of Chapter 2 of the EIAR and summarised below.

Transport Infrastructure Ireland

Transport Infrastructure Ireland (TII) responded to Scoping on the 6th February 2025 in which it provided a list of recommendations to be followed when preparing the EIAR.

All relevant TII guidelines and policies have been taken into account in the preparation of this assessment, including the following;

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

➤ TII Automatic Traffic Count Data, N85.

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

Table 15-1a Issues raised by TII in relation to the Proposed Project and Responses

ID	Comment/Recommendation	Response
1	Consultations should be had with relevant Local Authority / National Roads Design Offices with regards to locations of existing and future national roads schemes.	Consultation has been undertaken with Clare County Council as set out below.
2	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.	<p>The impacts of the Proposed Project on the construction material and turbine component delivery routes in terms of link flows are set out in Sections 15.1.6 of the EIAR. An assessment of the capacity of the N85 / R460 junction in Inagh is set out in Section 15.1.6.2.</p> <p>The assessment sets out the temporary local measures that will be required on the national, regional and local road networks during the construction of the Proposed Project.</p> <p>The proposed 33kV underground cabling does not interact with the national road network.</p>
3	The developer should assess visual impacts from existing national roads.	The visual impacts of the Proposed Project are set out in Chapter 13 of this EIAR.
4	The developer should have regard to any EIAR / EIS and all conditions and or modifications imposed by An Bord Pleanála (now An Coimisiún Pleanála) regarding road schemes in the area. The developer should, in particular, have regard to any potential cumulative impacts.	All conditions imposed by An Coimisiún Pleanála will be adhered to, and the cumulative traffic related impacts are assessed in Section 15.1.12.7.
5	The developer, in preparing an EIAR, should have regard to TII Publications (formerly DMRB and the Manual of Contract Documents for Road Works).	The design of the access junctions is in accordance with TII guidelines. The proposed design and visibility splays for the proposed access junction on the L6230 are shown in Figures 15-18 and 15-19.
6	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 (National Road Authority (NRA), 2014).	The potential impacts of the Proposed Project with regards noise set out in Chapter 12 of this EIAR.

ID	Comment/Recommendation	Response
7	<p>The EIAR should consider the ‘European Communities (Environmental Noise) Regulations, 2018, (S.I. no. 549 of 2018)’, and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers to reduce noise impacts (see ‘Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes (NRA, 2014)’).</p>	<p>The potential impacts of the Proposed Project with regards noise set out in Chapter 12 of this EIAR.</p>
8	<p>It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment (TTA) be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site, with reference to impacts on the national road network and junctions of lower category roads with national roads.</p> <p>In relation to national roads, TII’s ‘Traffic and Transport Assessment Guidelines’ (2014) should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of TII’s TTA Guidelines, which addresses requirements for sub-threshold TTA.</p> <p>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.</p>	<p>It is confirmed that the assessment presented in this section of the EIAR is undertaken in accordance with Traffic and Transport Assessment Guidelines, TII (2014).</p>
9	<p>The designers are asked to consult TII Publications to determine whether a Road Safety Audit is required.</p>	<p>A Stage 1 Road Safety Audit has been undertaken for the temporary works proposed at the L1076 / L6230 junction and the proposed construction and operational access on the L6230 local road prior to construction. The Stage 1 Road Safety Audit is summarised in Section 15.1.11 and included for information as Appendix 15-4.</p>
10	<p>In the interests of maintaining the safety and standard of the national road network, the EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network.</p>	<p>It is noted that only minor temporary works, including temporary overruns and the temporary removal of street furniture, are proposed on the national road network during the abnormal load</p>

ID	Comment/Recommendation	Response
		<p>delivery phase. All construction works on the local road network will be undertaken in accordance with current guidelines including the “<i>Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works</i>” (DoT now DoTT&S) and “<i>Guidance for the Control and Management of Traffic at Roadworks</i>” (DoTT&S).</p>
11	<p>TII recommends that the applicant/developer should clearly identify haul routes proposed and fully assess the network to be traversed. Where abnormal ‘weight’ loads are a feature of the development, e.g., turbine or substation components, separate structure approvals/permits and other licences may be required in connection with the proposed haul route. All national road structures on the haul route through all the relevant County Council administrative areas should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal ‘weight’ load proposed. Any requirements for ‘Exceptional Abnormal Loads’ should also be addressed in accordance with TII Publications.</p>	<p>The proposed haul routes are identified in this Section 15.1.9 below. While the construction phase of the Proposed Project will involve abnormally large loads, the axle loadings will not exceed accepted limits. A program of pre-delivery condition and structural assessment of the route is however proposed, as set out in the Traffic Management Measures, included set out in Section 15.1.13.5.</p>
12	<p>In addition, the haul route should be assessed to confirm capacity to accommodate abnormal ‘length’ loads and any temporary works required are identified.</p>	<p>A swept path analysis of the proposed turbine delivery route has been undertaken, as set out in Section 15.1.9.</p>
13	<p>The applicant/developer should also consult with all PPP Companies, Motorway Maintenance and Renewals Contractors (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.</p>	<p>Consultation will be undertaken with these bodies prior to the delivery of abnormally large loads.</p>
14	<p>Where temporary works within any MMaRC Contract Boundary are required to facilitate the transport of turbine components to the Site, the applicant/developer shall contact thirdpartyworks@tii.ie in advance, as a works specific Deed of Indemnity will be needed by TII before the works can take place.</p>	<p>The Applicant agrees with this condition.</p>
15	<p>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</p>	<p>The Applicant agrees with this condition, as set out in Section 15.1.13.5 of this EIAR.</p>

ID	Comment/Recommendation	Response
	accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority prior to the commencement of any development onsite.	
16	Where connection and cable routing form part of any proposals, proposals should be developed to safeguard proposed road schemes, as TII will not be responsible for costs associated with future relocation of cable routing where proposals are catered for in an area of a proposed national road scheme. In that regard, consideration should be given to routing options, use of existing crossings, depth of cable laying, etc.	The Applicant agrees with this condition.
17	The provision of cabling along the national road network represents a number of significant implications for TII and road authorities in the management and maintenance of the strategic national road network and TII is of the opinion that grid connection cable routing should reflect the foregoing provisions of official policy.	The proposed 33kV underground cabling does not interact with the national road network.
18	Consistent with CAP24, for all renewable energy developments requiring grid connection to the national grid, TII recommends that a full assessment of all route alternatives for grid connection takes place, including alternatives to public road, where appropriate. In TII's experience, grid connection accommodated on national roads has the potential, inter alia, to result in technical road safety issues such as differential settlement due to backfilling trenches and can impact on ability and cost of general maintenance, upgrades and safety works to existing national roads.	<p>The proposed 33kV underground cabling does not interact with the national road network.</p> <p>Consideration of reasonable alternatives to the Proposed Project, inclusive of alternative connections to the national grid is outlined in Chapter 3 of the EIAR.</p>
19	It is noted that current grid connection proposals included in the EIAR Scoping Report indicate no interactions with the strategic national road network in the area. However, in the event that proposals may alter, please note, having regard to the foregoing, in TII's opinion, the grid connection routing, where it is proposed to utilise the road network, must demonstrate that the route proposed represents the 'optimal solution'.	<p>The proposed 33kV underground cabling does not interact with the national road network.</p> <p>Consideration of reasonable alternatives to the Proposed Project, inclusive of alternative connections to the national grid is outlined in Chapter 3 of the EIAR.</p>
20	Other consents or licences may be required from the road authority for any trenching or cabling proposals crossing the national road. TII requests referral of all proposals agreed and licensed between the road authority and the applicant, which affect the national road network.	The proposed 33kV underground cabling does not interact with the national road network.

ID	Comment/Recommendation	Response
21	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.	<p>The Applicant agrees with this condition.</p> <p>The proposed 33kV underground cabling does not interact with the national road network.</p>

Clare County Council

Clare County Council responded to Scoping on the 10th March 2025 and noted they would be looking for the following elements from a road's perspective:

Table 15-1b Comments raised by Clare County Council in relation to the Proposed Project and road impacts

ID	Comment/Recommendation	Response
1	Identified Haul route for abnormal loads with a traffic plan and autotracking carried out in any areas of concern.	A swept path analysis undertaken for the abnormally large loads on the Turbine Delivery Route is set out in Section 15.1.9 of the EIAR.
2	Construction traffic management plan.	Traffic management measures are outlined in Section 15.1.12.5 and a Traffic Management Plan is included as Appendix 15-2 of the EIAR.
3	Sightline assessment for all entrances. We do not accept speed survey assessments to justify a reduced speed limit but with the new speed limit of 60kph on local roads this reduces the requirement significantly.	Based on the new speed limits a visibility splay of 2.4m x 90m is required. This is shown for the proposed site entrance on the L6230 in Figure 15-19.
4	Identify the cable route and determine any road closures. Residents effected should be given a point of contact. TTMP to be agreed with Clare County Council and reinstatement of road to be agreed with the Area Engineer.	The Applicant agrees with this condition.
5	The Municipal District Area Office should be made aware of the haul route and discussions should be had relating to repairs of the roadway immediate to any entrances to the site. A pre, during and post inspection will be required with assessment carried out on any water crossings.	The Applicant agrees with this condition.

ID	Comment/Recommendation	Response
6	Maintenance of the public road from any debris throughout the construction.	The Applicant agrees with this condition.
7	Identify the entrances that will be maintained for operations.	The site entrance for the Proposed Project is outlined in Section 15.1.9.

A pre-application consultation was held with Clare County Council on 25th March 2025 via Microsoft Teams. MKO provided an overview of the Proposed Project including details relating to the proposed turbine delivery route and proposed 33kV underground cabling route. Further details on the consultation with Clare County Council is outlined in Section 2.8.1.2 of Chapter Background.

Department of Transport

A response to scoping was received from the Department of Transport (DoT) on the 19th February 2025. The response refers to comments relating to the proposed 33kV underground cabling and works within the public road network. The issues raised and the Applicant’s responses are provided in Table 15-1b as follows:

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

ID	Comment/Recommendation	Response
1	Their [underground cables] 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.	<p>The Applicant and their Contractor will work with the Road Authority to minimise impacts on construction and maintenance of the road network through the scheduling of construction of sections of the route and agreement with diversion routes where required.</p> <p>It should be noted that any works within the public road corridor will be subject to a Road Opening Licence. This is a formal process through which the specific requirements of the Road Authority will be agreed.</p>
2	Their [underground cables] installation within the lands associated with the public road may affect the stability of the road. In particular where the road is a “legacy road” (where there is no designed road structure and the subgrade may be poor or poorly drained) or bog rampart the design needs to take account of all the variable ground conditions and not be based on a sample of the general soil conditions. This should include a constructability assessment to a 950mm minimum cover depth to the HV Cable on legacy roads, roads over peat/bog ramparts.	<p>As set out in Section 15.1.12.5.2 all roads will be re-instated in line with the specification of the Roads Authority.</p> <p>The Road Opening Licence process includes for a long-term impact and reinstatement fees, that are held for a minimum of two years following the completion of works, to cover any road maintenance works that may be required.</p> <p>As identified in Chapter 8, there is no significant areas of peat within the Proposed Grid Connection Site; the majority of the lands surrounding the</p>

ID	Comment/Recommendation	Response
		Proposed Grid Connection Site are comprised of agricultural lands and existing wind farm infrastructure.
3	The possible effect on the remaining available road space (noting that there may be need to accommodate other utilities within the road cross-section in the future or additional drainage for climate adaptation).	The proposed 33kV underground cabling trench will measure approximately 600mm in width. Therefore, there will be sufficient space for other utilities within the public road corridor.
4	The necessity to have the power in the cables switched off where the Road Authority considers this necessary in order to carry out its function to construct and maintain the public road and a complete operation and maintenance manual should be agreed with the Local Authority.	The Applicant agrees with this condition
5	Examination of all available technologies including both Overhead Line (OHL) and Underground Cable (UGC) options or combinations of both) and route options other than the routing of cables along the public road the ensure the best performing route and technology option is selected.	Refer to Chapter 3: Consideration of Reasonable Alternatives
6	Examination of options for connection to the national grid network at a point closer to the wind farm in order to reduce the adverse impact on public roads.	Refer to Chapter 3: Consideration of Reasonable Alternatives
7	Details of where within the road cross section cables are to be placed so as to minimise the effect on the Roads Authority in its role of construction and maintenance.	<p>The location of the proposed 33kV underground cabling within the public road corridor is shown on the detailed site layout drawings in Appendix 4-1 of this EIAR.</p> <p>As noted above, any works within the public road corridor will be subject to a Road Opening Licence. This is a formal process through which the specific requirements of the Road Authority will be agreed.</p>
8	Examination of details of any chambers proposed within the public road cross section so as to minimise the effect on the Roads Authority in its role of construction and maintenance,	The proposed locations of joint bays, communication chambers and earth sheath link chambers are shown in the detailed site layout drawings in Appendix 4-1 of this EIAR.

ID	Comment/Recommendation	Response
9	Elimination of permanent jointing bays from beneath the road pavement to protect the integrity of the road structure for the safety of those driving on the public road by eliminating hard spots and also preserve the road width for other utilities, temporary joint bays to be used in any public road installation.	Joint Bays cannot be eliminated from the Proposed Project underground cabling design due to physical limitations of cabling length. Extent of the joint bays on the public road has been minimised as much as possible and the Community Liaison Officer (CLO) has met with the Area Engineer to discuss the siting. Once the sections of cabling have been connected within each joint bay, the chamber will be backfilled and the road surface will be reinstated as per Road Authority specifications.
10	No attachment of cables to all bridge structures and culverts by diverting them beneath or away from these structures and,	The proposed crossing methodologies of the Proposed Project at all watercourses is outlined in Table 4-5 in Chapter 4 and detailed drawings are provided in Appendix 4-1 of this EIAR.
11	Rationalisation of the number of cables involved (including existing electric or possible future cables) and their diversion into one trench, in order to minimise the impacts on the road network and the environment along the road boundary (hedgerows).	The proposed 33kV underground cabling design has been designed to have the smallest footprint possible. Only 1 no. trench for underground cabling is proposed as part of the Proposed Project.

The DoT considers the following should be considered when applying conditions to any approval:

- A condition requiring the specific approval of the local authority to the detail of the final route of cables through the public road space. If during construction there is a need to deviate from the detailed design then the approval of the local authority would again be sought. This would assist in minimising the impact on the public road.
- 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.
- 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. This record should include as constructed surveys of all infrastructure altered, added, removed or relocated and exact detail of the road construction including any drains or other features encountered. The record should be lodged with the local authority and with the ESB Networks for retention on their records.
- A condition to require the elimination of permanent jointing bays from under the road pavement to protect the integrity of the road structure, thereby improving safety for those driving on the public road by eliminating hard spots and preserving the road width for other utilities.
- A condition requiring the developer to route cables away from bridge structures and specifically preventing the developer from attaching cables to road bridges. This would allow for the future maintenance of bridges without interruption of the electricity supply along the cables.

- 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 and Section Structure

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

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

- A review of the existing and future transport infrastructure in the vicinity of the Proposed Project, including the proposed turbine delivery route, an assessment of base 2026 traffic flows and traffic forecasts during an assumed construction year of 2029 (Section 15.1.2 Receiving Environment and 15.1.3 – Existing Traffic Volumes),
- A description of the nature of the Proposed Project and the traffic volumes that it will generate during the different construction stages and when it is operational (Section 15.1.4 – Proposed Project and Traffic Generation),
- A description of the abnormally large loads and vehicles that will require access to the Site (Section 15.1.5 Construction Traffic Design Vehicles),
- A review of the effects of Proposed Project-generated traffic on links and junctions during construction phase (i.e., 18 months) and when the facility is operational (Section 15.1.6 –Traffic Effects During Construction and Operation and Decommissioning of the Proposed Project),
- An assessment of the effects during the Proposed Grid Connection Site 33kV underground cabling works (Section 15.1.7 – Effect on Network of the Proposed Grid Connection Site),
- Traffic management of large deliveries and a geometric assessment of the routes and their capacity to accommodate the abnormal loads associated with the Proposed Project (Section 15.1.8 – Traffic Management of Large Deliveries and Section 15.1.9– Abnormal Load Route Assessment),
- A summary of the Road Safety Audit undertaken for the Proposed Project (Section 15.1.11)
- An assessment of the provision for sustainable modes of travel (in this case primarily with respect to the transport of construction staff) (Section 15.1.11 – Provision for Sustainable Modes of Travel),
- A description of potential effects of the Proposed Project on Roads and Traffic (Section 15.1.12 – Likely Effects and Associated Mitigation Measures).

15.1.2 Receiving Environment

15.1.2.1 Site Location

The Site is located approx. 7km south of Ennistimon, Co. Clare and 8km west of Inagh, Co. Clare. The town of Miltown Malbay is located approx. 5.8km east of the nearest proposed turbine (T07). The Proposed Wind Farm Site is located in an upland setting comprising predominantly cutover bog with areas of commercial forestry, agricultural land and low density residential properties. It is proposed to

access the Proposed Wind Farm Site via an existing access track off the L6230-19 local road to the northwest of the Proposed Wind Farm Site. The Proposed Wind Farm Site is served by a number of existing local, forestry and agricultural roads and tracks. Works will be required at this location in order to accommodate access and egress of turbine vehicles and general construction traffic, with the abnormal load route assessment discussed in Section 15.1.9.

15.1.2.2 Proposed Turbine Delivery Route

It is proposed that the Turbine Delivery Route (TDR) will be via the Port of Foynes in County Limerick as follows;

- From the access road serving Foynes Port the route turns left (south) onto the N69 National Secondary Road at the existing priority junction.
- From this point the route heads east on the N69 for approximately 32kms, passing through various bends on the route.
- The route for turbine blade delivery then turns left off the N69 at the Dock Road West Roundabout to head north onto the N18/M18 for approximately 30km to Junction 12 of the M18.
 - For turbine tower sections, the route will continue east at the N69 Dock Road West roundabout along the R510 for approximately 3.4km, passing through the Greenpark Road roundabout before turning left at the Shannon Bridge Roundabout onto the R527.
 - The route continues along the R527 heading northwest through the Clonmacken Roundabout for approximately 4.1km before turning left at the Coonagh Roundabout onto the R445 for approximately 3.0km, passing through the Clondrinagh Roundabout, Phares Road Roundabout and L3112 Roundabout before joining the N18/M18 at Junction 4.
- At this point the route turns off the M18 onto the N85 National Road and heads west and then north bypassing the town of Ennis for approximately 7.3km passing through the Skehanagh Roundabout, the R458 Clareabbey Roundabout, the Rocky Road Roundabout, Beechpark Roundabout to the N85 Claireen Roundabout located northwest of Ennis.
- From this roundabout the TDR heads west for approximately 13.7km on the N85 to Inagh.
- The route then turns left in the village of Inagh heading west on the R460 for 4.3 kms before veering right onto the local L1074.
- The routes continues westbound on the L1074 for 4.2 km before taking a left-hand bend on the L1076 and continuing in a southwest direction for a further 2.0 kms. At this point the route turns left onto the L6230 heading south for 0.3km. Access to the site is then gained by turning left onto an existing forest track heading in an eastern direction towards the site.

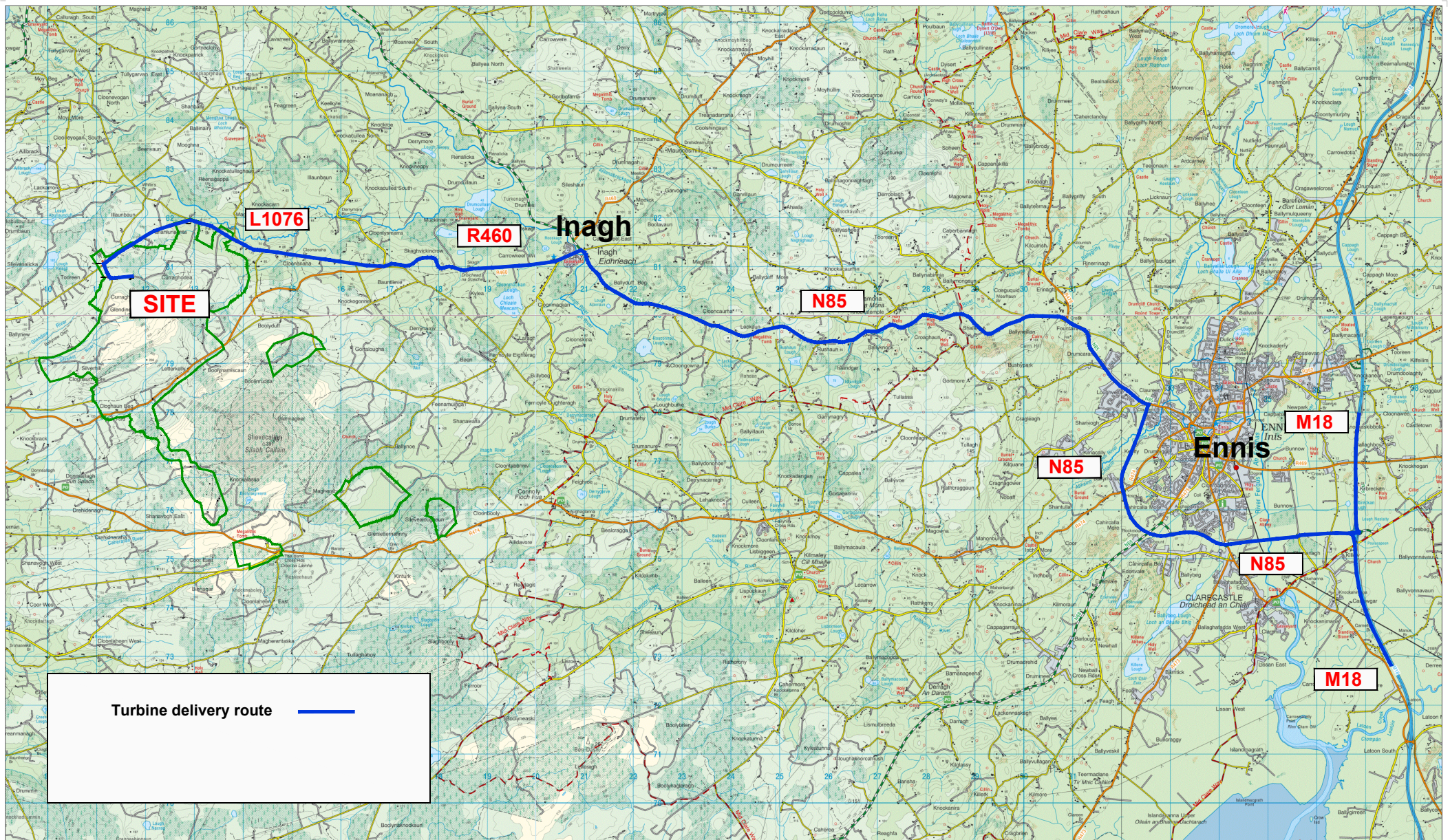
The TDR is approximately 94km from the Port of Foynes to the proposed site access off the L6230. A figure of the entire TDR is included as Figure 4-27 in Chapter 4 of the EIAR.

An Autotrack assessment of all potential pinch points was undertaken as follows;

- From the exit off the N85 at the Claireen Roundabout to the Site access junction off the L6230 inclusive, the TDR negotiates 6 potential pinch points, including the Proposed Wind Farm Site access junction. The Autotrack assessment for these locations, which are indicated in Figure 15-2a, are discussed in Section 15.1.9.
- For abnormally sized loads from the Port of Foynes to the N85 Claireen Roundabout, no significant accommodation works were identified. The Autotrack assessment for these locations are included as Appendix 15-3 of the EIAR.

15.1.2.3 Proposed Construction Traffic Haul Route

All concrete required for each turbine foundation will be delivered to the Site in one day per foundation for a total of 9 no. days. The majority of crushed stone required for the turbine foundations will be sourced from the proposed onsite borrow pit as described in Section 4.4.10 of Chapter 4. Concrete, and Engineer's specified material should sufficient volumes of suitable material not be encountered during the excavation phase of the proposed infrastructure, will be imported onto the Site, which will come from local licenced quarries. All concrete deliveries provided by local quarries will access the Proposed Wind Farm Site entrance off the L6230, as shown in Figure 15-1.



Turbine delivery route ———

NOTES:
 PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-1 Site location and delivery route

PROJECT: Slieveacurry Renewable Energy Development		ALAN LIPSCOMBE TRAFFIC & TRANSPORT CONSULTANTS
CLIENT: Slieveacurry Ltd		
PROJECT NO: 9101	DATE: 29.04.26	
		SCALE: NTS
		DRAWN BY: AL

15.1.2.4 Proposed Grid Connection Site

The proposed 33kV underground cabling will continue from the wind farm road to the proposed extension to the existing Slievecallan 110kV substation located in the townland of Knockalassa. The proposed 33kV underground cabling exits the Proposed Wind Farm Site through forestry for approximately 0.83km, onto a farm track for 0.55km before entering the public road corridor via the R460 Regional Road. It stays within the public road corridor for approximately 1.55km. The proposed 33kV underground cabling then exits onto existing private access tracks, following these for approximately 4.17km before reaching the proposed extension to the existing Slievecallan 110kV substation. The total length of cabling within the Proposed Grid Connection Site measures approximately 7.1km.

15.1.3 Existing Traffic Volumes

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

15.1.3.1 Background Traffic Flows

The six locations included in the link flow assessment and for which base year 2026 traffic count data was collated are set out in Table 15-2 and shown in Figure 15-2b. The locations included in the assessment are as follows,

- Link 1 – N85 bypassing Ennis to the west and south of the Claireen Roundabout,
- Link 2 – N85 heading west from Ennis at the Claireen Roundabout,
- Link 3 – N85 approaching Inagh from the south,
- Link 4 – R460 west of Inagh, and,
- Link 5 – L1074 leading to the Site.

The traffic volumes were obtained from 24 hour classified turning count surveys undertaken at the Claireen Roundabout to the west of Ennis, and the N85 / R460 priority junction in Inagh. An automatic traffic count was also undertaken on the L1074 approaching the Site. The surveys were undertaken on Thursday 12th March 2026 by Traffinomics Ltd.

All base year 2026 traffic count data is included as Appendix 15-1.

Table 15-2 Count locations and data source.

Link	Data source
1 N85 south of Claireen Roundabout	Classified count
2 N85 west of Claireen Roundabout	Classified count
3 N85 south of Inagh	Classified count
4 R460 west of Inagh	Classified count
5 L1074	Classified count

The all-day traffic flows for the observed base year 2026 are shown in terms of vehicle numbers in Table 15-3. The figures show that there is a considerable range in existing traffic volumes on the proposed turbine delivery route, ranging from 10,946 vehicles per day on the N85 south of the Claureen Roundabout (Link 1), increasing to 19,275 vehicles on the N85 heading west from the same roundabout (Link 2). Approaching Inagh traffic volumes on the N85 reduce to 6,564 vehicles per day (Link 3), and reduce further again on the TDR heading west out of Inagh on the R460 (Link 4) to 3,154 vehicles. On the L1074 (Link 5) travelling towards the site traffic volume were observed to be light with 362 vehicles observed in one day.

A review of the data available from the Automatic Traffic Count maintained by TII on the N85 between Ennistimon and Inagh was undertaken in order to determine the seasonal variation in traffic flows on the proposed delivery route. It was determined from the data that the traffic volumes observed during the survey month of March were less than the annual average, and that the observed traffic flows should be increased by 5.7% to reflect average traffic conditions. The seasonally adjusted traffic volumes for 2026 are also included in Table 15-3 and are used as the base traffic data for this assessment.

Table 15-3 All day traffic flows by location, year 2026 (2-way vehicles)

Link	2026 observed March	2026 seasonally adjusted
1 N85 south of Claureen R'bout	10,946	11,570
2 N85 west of Claureen R'bout	19,275	20,374
3 N85 south of Inagh	6,564	6,938
4 R460 west of Inagh	3,154	3,334
5 L1074	362	383

15.1.3.2 Background Traffic Volumes for the Assumed Construction Year 2029

This section describes the process adopted to produce background traffic forecasts for an assumed construction year of 2029.

Revised guidelines for forecasting annual growth in traffic volumes were produced by TII in October 2021, as set out by count in the Project Appraisal Guidelines (Unit 5.3 – Travel Demand Projections). The annual growth rates for light vehicles for County Clare and factors for the years relevant to this study are shown in Tables 15-4 and 15-5. Based on TII growth rates it is estimated that traffic volumes will increase by 4.8% from 2026 to the year 2029, when the construction of the Proposed Project is forecast to take place. Traffic flows for the base year 2026 and the construction year of 2029 are compared in Table 15-6.

While the assumed construction year of 2029 may vary within the 10-year period for which planning permission is sought, this will not alter the forecast outcomes and effects presented in this section of the EIAR. This is due to the annual growth rate for background traffic being 1.56% by the year 2030 (as shown in Table 15-4 as 1.0156) and, more importantly, the traffic volumes generated by the Proposed Project will remain unchanged regardless of construction year, as presented subsequently in Section 15.1.6.2.

Table 15-4 TII Traffic Growth Annual Factors and Indices for County Clare

Year	Lights – Annual Factor			Lights – Cumulative Index		
	Low	Medium	High	Low	Medium	High
2026	1.0139	1.0156	1.0191	1.000	1.000	1.000
2027	1.0139	1.0156	1.0191	1.014	1.016	1.019
2028	1.0139	1.0156	1.0191	1.028	1.031	1.039
2029	1.0139	1.0156	1.0191	1.042	1.048	1.058
2030	1.0139	1.0156	1.0191	1.057	1.064	1.079
2031	1.0019	1.0038	1.0075	1.059	1.068	1.087
2032	1.0019	1.0038	1.0075	1.061	1.072	1.095

Source: TII Project Appraisal Guidelines – Unit 5.3, October 2021

Table 15-5 TII traffic growth rates by growth scenario

Period	New Factors		
	Low	Medium	High
2026 – 2029	1.042	1.048	1.058

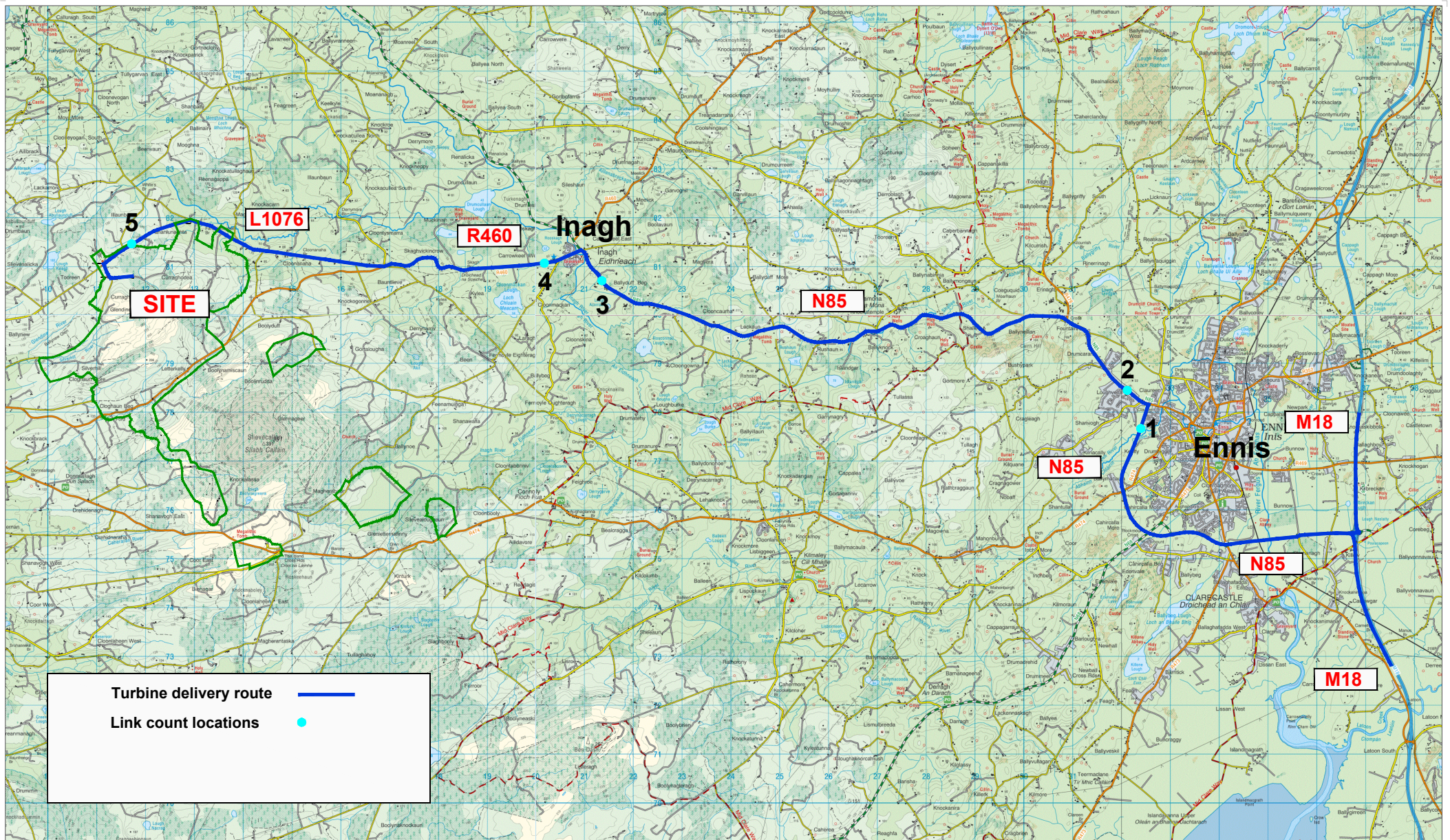
Table 15-6 Average all day flows by location and year (2-way vehicles)

Link	2026 (seasonally adjusted)	2029 construction year
1 N85 south of Claureen R'bout	11,570	12,125
2 N85 west of Claureen R'bout	20,374	21,352
3 N85 south of Inagh	6,938	7,271
4 R460 west of Inagh	3,334	3,494
5 L1074	383	401

The traffic count surveys described in Section 15.1.3.1 were used to determine the existing percentage of HGVs on the study area network which ranges from between 1.4% on the L1076 leading to the Proposed Wind Farm Site (Link 5), to 5.7% on the N85 to the south of the Claureen Roundabout (Link 1). Traffic volumes forecast on the study network for the year 2029 are shown by vehicle type in Table 15-7.

Table 15-7 All day flows, percentage HGVs and flows by vehicle type, year 2029

Link	All day flow (vehs)	% HGV's	Vehicles		PCUs		
			HGVs	Cars / lgvs	HGVs	Cars / lgvs	Total
1 N85 south of Claureen R'bout	12,125	5.7%	691	11,434	1,659	11,434	13,093
2 N85 west of Claureen R'bout	21,352	4.3%	918	20,433	2,203	20,433	22,637
3 N85 south of Inagh	7,271	4.1%	298	6,973	715	6,973	7,689
4 R460 west of Inagh	3,494	4.0%	140	3,354	335	3,354	3,689
5 L1074	401	1.4%	6	395	13	395	409



NOTES:

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Figure 15-2b Link count locations

PROJECT: Slievecurry Renewable Energy Development

CLIENT: Slievecurry Ltd

SCALE: NTS

PROJECT NO: 9101

DATE: 29.04.26

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

15.1.4 Proposed Project and Traffic Generation

While the design of the junction that will provide access to the Proposed Wind Farm Site is discussed in Section 15.1.9.1, a summary of the proposed access junction is provided below. The location of the proposed access junction to the Proposed Wind Farm Site is shown in Figure 15-1.

15.1.4.1 Proposed Wind Farm Site Entrance

All construction traffic, including the delivery of the abnormally sized loads, the delivery of all general construction traffic, all staff construction traffic, and for the purpose of all maintenance traffic during the operational phase, will be provided via one access junction located on the eastern side of the L6230. The design of the site access junction is discussed in Section 15.1.9.1.

15.1.4.2 Development Trip Generation – During Construction

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

- Stage 1 – Proposed Project construction: groundworks, construction of temporary construction compounds, turbine foundations, met mast foundation, extension to existing Slievecallan 110kV substation and internal electrical cabling.
- Stage 2 – Proposed turbine component delivery and construction.

For the purpose of the traffic impact assessment, projections based on trip generation data collected from other wind farm construction projects regarding the numbers of trips per quantum of material, the number of turbine component parts based on 9 no. turbines, the length of the construction phase and work periods etc. were made to inform the assessment. These projections allow for assessment using the precautionary principle but should not be inferred as prescriptive limitations to the construction phase. There are numerous variables which can affect a construction project programme, including weather. The construction phase of the Proposed Project will be carried out in accordance with the Construction Environment Management Plan (CEMP), included as Appendix 4-5 of this EIAR, which will be agreed, where required, with the relevant Local Authority.

The shortest potential construction phase duration of 18 months was assumed for the construction of the Proposed Project in order to test a precautionary scenario. The shortest construction period will give rise to higher volumes of construction traffic using the public road network at any one time. The traffic generation estimates set out in the following paragraphs are based on a total construction period of 18 months, or based on 255 working days per annum, 383 days.

15.1.4.2.1 Stage 1 – Site Preparation and Groundworks (general construction = 341 days, concrete foundation pours = 9 days)

For assessment purposes, this stage of the Proposed Project construction, which includes the site preparation and ground works, construction of temporary construction compounds, turbine foundations, met mast foundation, and internal electrical cabling is assumed to last 350 days, during which a total of 4,272 deliveries will be made to the Site, as shown in Table 15-8.

During this construction phase there will be two distinct types of days with respect to trip generation. A total of 9 working days will be used to pour the 9 concrete wind turbine foundations. Foundations will likely be poured one per day, with c. 110 concrete loads required for each turbine delivered to the Proposed Wind Farm over a 12-hour period, resulting in 9 HGV trips to and from the Site per hour.

On the remaining 341 working days for this stage other general materials will be delivered to the Proposed Wind Farm.

The estimated additional daily traffic generated on the road network during these days are shown in Tables 15-9 and 15-10. The figures show that on the 9 working days that concrete will be delivered to the Site, an additional 528 two-way PCUs will be added to the network (comprising 110 two-way HGV trips with 2.4 PCUs per movement), as shown in Table 15-9. Similarly, on the 341 working days when other materials will be delivered to the Site, traffic volumes on the local network will increase by an average of 46 PCUs, as set out in Table 15-10.

15.1.4.2.2 **Stage 1 – Proposed Grid Connection Site (71 days)**

This stage of the Proposed Project construction includes works related to the construction of the Proposed Grid Connection Site. The construction of the of the Proposed Grid Connection Site is discussed further in Section 15.1.7 of the EIAR. It is forecast that the construction of the Proposed Grid Connection Site and associated works will take 71 working days during which a total of 15 HGV trips will travel to and from the Site, as shown in Table 15-11. On the 71 days when deliveries for the Proposed Grid Connection Site and associated works will be delivered to the Site, traffic volumes generated by deliveries on the local network will increase by an average of 72 PCUs, as set out in Table 15-11.

Total construction loads for Site preparation and groundworks for the Proposed Project are outlined in Table 15-7 below

Table 15-8 Stage 1 – Site preparation and groundworks – HGV movements

Material	Total no. Truck Loads	Truck type
Concrete	990	Concrete mixer
Delivery of plant	63	Large artic
Fencing and gates	2	Large artic
Compound setup	36	Large artic
Steel	23	Large artic
Sand / binding / stone	72	Truck
Ducting and cabling	215	Large artic
Tree felling	1,440	Large artic
Crane (to lift steel)	1	Large artic
Stone capping (roads and substation extension)	926	Truck
Substation (extension)	81	Large artic
Cranes for turbine	11	Large artic
Re-fuelling for plant	187	Large artic
Site maintenance	135	Large artic
Waste Collection/Miscellaneous	90	Large artic

Material	Total no. Truck Loads	Truck type
Total	4,272	

Table 15-9 Stage 1 – Concrete foundation pouring – total movements and volumes per delivery day

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	PCU Movements /day*	2- way PCUs/day
Concrete	990	Truck	2.4	2,376	264.0	528.0
* Estimation based on 9 concrete pouring days						

Table 15-10 Stage 1 – Site preparation and groundworks – total HGV movements and volumes per delivery day

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	PCU Movements /day*	2- way PCUs/day
Delivery of plant	63	Large artic	2.4	151.2	0.4	0.9
Fencing and gates	2	Large artic	2.4	4.8	0.0	0.0
Compound setup	36	Large artic	2.4	86.4	0.3	0.5
Steel	23	Large artic	2.4	55.2	0.2	0.3
Sand / binding / stone	72	Truck	2.4	172.8	0.5	1.0
Ducting and cabling	215	Large artic	2.4	516.0	1.5	3.0
	0	Large artic	2.4	0.0	0.0	0.0
Tree felling	1,440	Large artic	2.4	3,456.4	10.1	20.3
Crane (to lift steel)	1	Large artic	2.4	2.4	0.0	0.0
Stone capping (roads and	926	Truck	2.4	2,222.4	6.5	13.0

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	PCU Movements /day*	2- way PCUs/day
substation extension)						
Substation (extension)	81	Large artic	2.4	194.4	0.6	1.1
Cranes for turbine	11	Large artic	2.4	26.4	0.1	0.2
Re-fuelling for plant	187	Large artic	2.4	448.8	1.3	2.6
Site maintenance	135	Large artic	2.4	324.0	1.0	1.9
Miscellaneous	90	Large artic	2.4	216.0	0.6	1.3
Total	3,282			7,876.8	23.1	46.2

* Estimation based on groundwork period of 341 working days

Table 15-11 Stage 1 – Proposed Grid Connection Site construction – total movements and volumes per delivery day

Material	Total Truck Loads	Truck type	PCU Value	Total PCUs	PCU Movements /day*	2- way PCUs/day
Concrete	1,065	Truck	2.4	2,556	36.0	72.0

* Estimation based on 71 construction days

15.1.4.2.3 **Stage 2 – Turbine Construction (abnormal loads = 24 nights, smaller components = 9 days)**

During the turbine construction stage, including delivery and assembly, there will be deliveries to the Proposed Wind Farm Site made by abnormally large vehicles, referred to in this section as *extended artics*, transporting the component parts of the turbines (nacelles, blades and towers). There will also be deliveries made by standard large HGVs, transporting cables, tools and smaller component parts. The types of load and associated numbers of trips made to the Proposed Wind Farm Site during the turbine construction period are shown in Table 15-12, which summarises that a total of 72 trips will be made to and from the Site by extended artics, with a further 36 trips made by standard large articulated HGVs.

Table 15-12 Stage 2 – Wind turbine plant – total HGV and Extended artic movements

Material	Units	Quantity per Unit	Total Quantity	Quantity per Truck	Total Truck Loads	Truck type
Nacelle	9	1	9	1	9	Extended Artic
Blades	9	3	27	1	27	Extended Artic
Towers	9	4	36	1	36	Extended Artic
<i>Sub total</i>					72	
Transformer	9	1	9	1	9	Large Artic
Drive train and blade hub	9	1	9	1	9	Large Artic
Base and other deliveries	9	2	18	1	18	Large Artic
<i>Sub total</i>					36	
Total					108	

For the purposes of this assessment, it is assumed that the turbine delivery element will progress at the rate of 3 extended artic trips made by convoy to the Proposed Wind Farm Site on 5 days per week, which is a common delivery frequency for large turbine components from the port of entry to the Proposed Wind Farm Site. This will result in this stage taking 24 days spread over a 5-week period with all deliveries made during the night. The actual trip number will be determined following consultations with An Garda Síochána. On a further two working days per week, lasting for approximately 5 weeks, the remaining equipment required during this phase will be delivered to the Proposed Wind Farm Site. The additional traffic movements for these two types of days are summarised in Tables 15-13 and 15-14. In Table 15-13 a PCU equivalent value of 10 was allocated to each extended artic movement, resulting in an additional 60 PCUs on the study network on these 24 days, while an additional 19.2 PCUs are forecast to be on the network on 9 other days, as shown in Table 15-14, during the turbine construction phase.

Table 15-13 Stage 2 – Wind turbine plant– total extended artic movements and volumes per delivery day

Material	Units	Truck Type	PCU Value	Total PCUs	2-way PCUs/ day
Nacelle	1	Extended Artic	10	10.0	20.0
Blades	3	Extended Artic	10	30.0	60.0
Towers	4	Extended Artic	10	40.0	80.0

Material	Units	Truck Type	PCU Value	Total PCUs	2-way PCUs/ day
Total per turbine	8			80.0	160.0
Total per delivery day	3			30.0	60.0
*Estimation based on 3 abnormal sized loads being delivered per day on 5 days per week (total 72 loads will take 24 nights spread over 5 weeks)					

Table 15-14 Stage 2 - Wind turbine plant - total HGVs movements and volumes per delivery day

Material	Quantity per Unit	PCU Value	2-way PCUs / day
Transformer	1	2.4	4.8
Drive train and blade hub	1	2.4	4.8
Base & other deliveries	2	2.4	9.6
Total	3		19.2

*Estimation based on equipment for 2 turbines being moved per week spread over 2 days

15.1.4.2.4 Summary of construction days and trip generation by delivery route

Of the total 350 working days forecast for the construction phase it is proposed that the general construction element of the Proposed Project will be undertaken for 341 days, with 71 of these days being undertaken at the same time as the construction of the Proposed Grid Connection Site takes place.

For 9 days concrete deliveries for the turbine foundations will be made to the site, with 24 days and 9 days allocated for the delivery of the large and smaller turbine components respectively. A summary of the 2-way delivery trips in terms of PCUs that will be generated on the 5 typical delivery days, together with the duration in days, is shown in Table 15-15.

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

Delivery day	Days	2-way HGV PCUs	2-way car PCUs	2-way total PCUs
General construction + Proposed Grid Connection Site construction	71	118 (46+72)	86	204
Concrete foundation delivery days	9	528	70	598
Turbine component delivery abnormally sized loads	24	60	70	130

Delivery day	Days	2-way HGV PCUs	2-way car PCUs	2-way total PCUs
Turbine component delivery standard HGVs	9	19	45	64
General construction only	270	46	45	91

Construction Employee Traffic

During the construction of the Proposed Project, it is estimated that up to 70 jobs will be created. It is estimated that up to 70 staff members will be employed at any one time during the site preparation and groundworks stage of construction, reducing to a maximum of 45 staff following the delivery of the large turbine components. It is estimated up to 16 construction staff will be employed at the point of construction on the proposed 33kV underground cabling. If a precautionary scenario is assumed that all staff will travel to / from the Site by car, at an average of 2 persons per car, then a total of 70 PCU movements (each trip is two way) will be added to the network during the groundworks stage of the Proposed Project, reducing to 45 PCU trips during the turbine construction stage. Similarly, a total of 8 car trips, or 16 PCUS will be generated by staff travelling to and from the Proposed Grid Connection Site.

15.1.4.3 Development Trip Generation – During Operation

There will be no staff permanently present on the Site once the Proposed Project is operational as it will be remotely monitored. The only traffic associated with the operational phase of the Proposed Wind Farm Site will be from maintenance personnel that will gain access to the Site via the proposed access junction off the L6230.

While there will be no scheduled trips required for the Proposed Grid Connection Site, maintenance may be required, although this will occur rarely generating a modest number of trips.

It is estimated that the traffic volumes that will be generated by the Proposed Project once it is operational will be minimal, with an estimated 1-2 staff employed on the Proposed Wind Farm Site at any time. The impact on the network of these trips during the operational stage is discussed in Section 15.1.12 below.

15.1.4.4 Development Trip Generation – During Decommissioning

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

During this phase, there will be no traffic generation as a result of the Proposed Grid Connection Site or as these elements of the Proposed Project will not be decommissioned.

15.1.5 Construction Traffic Design Vehicles

The delivery of turbine components including blades, tower sections and nacelles is a specialist operation due to the oversized loads involved. The blades are the longest turbine component and in the case of the Proposed Project, a maximum blade length of 75.0m has been considered for the purpose of this route assessment.

For the purpose of the assessment set out in this EIAR, it is assumed that the blades, which are the largest turbine components, will be transported using a standard extended arctic. As this method involves transporting the blade in a horizontal position it represents the worst case in terms of the geometric requirements on the road network. It is noted, however, that during the delivery phase consideration will be given to using alternative transportation technologies, including the use of scissor lift adaptors which raise the rear of the blade over existing obstructions, and in extreme cases, the use of blade lift adaptors that can transport blades at an angle to both lift the rear of the blade and shorten the wheelbase of the transporter.

The key dimensions are as follows:

Transport of Blades – Super Wing Carrier with blade

Total length	81.0 m
Length of blade	75.0 m
Inner radius	28.0 m

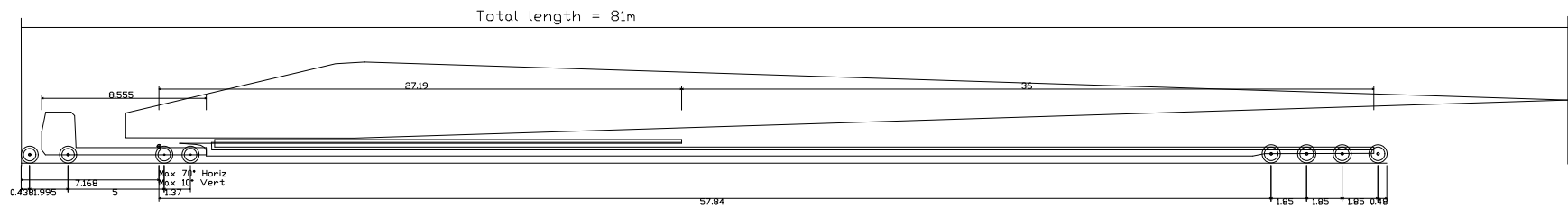
Transport of Tower – Using low-bed or drop deck trailers

Total length (with load)	41.7 m
Length of load	33.0 m
Inner radius	25.0 m

The critical vehicles in terms of size and turning geometry requirements and used in the detailed route assessment discussed in Section 15.1.8, are the blade and tower transporters. The geometry of the design vehicles are included as Figures 15-3 and 15-4.

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

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



75 m blade
 Overall Length 81m
 Overall Width 2.550m
 Overall Body Height 2.651m
 Min Body ground Clearance 0.375m
 Track Width 2.500m
 Lock to Lock Time 6.00s
 Wall to Wall Turning Radius 9.800m

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-3 Design blade extended artic profile

PROJECT: Slieveacurry Renewable Energy Development

CLIENT: Slieveacurry Ltd.

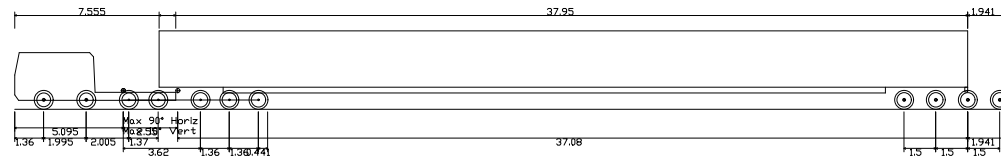
SCALE: NTS

PROJECT NO: 9101

DATE: 22.04.26

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS



Tower
 Overall Length 46.666m
 Overall Width 2.550m
 Overall Body Height 3.695m
 Min Body Ground Clearance 0.427m
 Max Track Width 2.520m
 Lock to Lock Time 6.005
 Wall to Wall Turning Radius 9.800m

NOTES:
 PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-4 Design tower extended artic profile

PROJECT: Slieveacurry Renewable Energy Development	
CLIENT: North Clare Renewable Energy	SCALE: NTS
PROJECT NO: 9101	DATE: 22.04.26
DRAWN BY: AL	

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

15.1.6 Traffic Effects During Construction, Operation and Decommissioning of the Proposed Project

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

It should be noted that for the purpose of the assessment all vehicles travelling to and from the Proposed Wind Farm have been assumed to do so from the TDR and delivery route shown in Figure 15-1 and discussed in Sections 15.1.2.2 and 15.1.2.3 of this EIAR

15.1.6.1 Effect on Link Flows – During Construction

Background traffic volumes, as established previously and set out in Table 15-7, and development generated traffic volumes, are shown for the typical construction day scenarios discussed in Section 15.1.4 and are set out in Table 15-16 to 15-20, with the traffic effects summarised in Tables 15-21 to 15-25. The actual figures presented in the tables will be subject to change, however they are considered to represent a robust estimation of the likely effects.

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

General construction + Proposed Grid Connection Site construction (71 days)

For these 71 days an additional 204 PCUs will travel on the study network. On these days, the percentage increase in traffic volumes experienced on the study network will be between +1.6% on the N85 south of the Claureen Roundabout (Link 1) to +0.9% on the N85 to the west of the Roundabout (Link 2), to +2.7% on the N85 passing through Inagh (Link 3), to +5.5% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +49.9% on the L1074 approaching the Proposed Wind Farm Site (Link 5).

Concrete foundation pouring days (9 days)

On average an additional 598 PCUs will travel on the local highway network during these 9 days. This will result in a percentage increase in traffic volumes on the study network of between +4.6% on the N85 south of the Claureen Roundabout (Link 1) to +2.6% on the N85 to the west of the Claureen Roundabout (Link 2), to +7.8% on the N85 passing through Inagh (Link 3), to +16.2% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +146.3% on the L1074 approaching the Proposed Wind Farm Site (Link 5).

Turbine delivery (abnormally sized loads) (24 days)

The additional 130 PCUs (made up of cars and large extended artics) will travel on the study network for 24 nights. On the nights this impact occurs, volumes will increase by between +1.0% on the N85 south of the Claureen Roundabout (Link 1) to +0.6% on the N85 to the west of the Claureen Roundabout (link 2), to +1.7% on the N85 passing through Inagh (Link 3), to +3.5% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +31.8% on the L1074 approaching the Proposed Wind Farm Site (Link 5).

The most significant traffic impact may be experienced during these days primarily due to the slow speeds, size and geometric requirements of these vehicles. The provision of traffic management measures, including ensuring that these deliveries are made at night (as set out in Sections 15.1.8 and

15.1.12.2 and included in the CEMP), will be required to minimise the impact of development traffic on the study network on these days.

Turbine delivery (standard sized HGV) (9 days)

An additional 64 PCUs will travel on the study network for 9 days. On these days traffic volumes will increase by between +0.5% on the N85 south of the Claureen Roundabout (Link 1), +0.3% on the N85 to the west of the Claureen Roundabout (Link 2), to +0.8 on the N85 passing through Inagh (Link 3), to +1.7% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +15.7% on the L1074 approaching the Proposed Wind Farm Site (Link 5).

General construction only (270 days)

For a total of 270 days when general construction only takes place on the site an additional 91 PCUs will travel on the study network. On these days, the percentage increase on the study network will be between +0.7% on the N85 south of the Claureen Roundabout (Link 1), +0.4% on the N85 to the west of the Claureen Roundabout (Link 2), to +1.2 on the N85 passing through Inagh (Link 3), to +2.5% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +22.3% on the L1074 approaching the Proposed Wind Farm Site (Link 5).

Table 15-16 Daily effects of development traffic during general construction and grid construction

Link	Background PCUs			Development PCUs			Total PCUs (Background + Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 N85 south of Claureen R'bout	11,434	1,659	13,093	86	118	204	11,520	1,777	13,297
2 N85 west of Claureen R'bout	20,433	2,203	22,637	86	118	204	20,519	2,321	22,841
3 N85 south of Inagh	6,973	715	7,689	86	118	204	7,059	833	7,893
4 R460 west of Inagh	3,354	335	3,689	86	118	204	3,440	453	3,893
5 L1074	395	13	409	86	118	204	481	131	613

Table 15-17 Daily development traffic during concrete foundation deliveries

Link	Background PCUs			Development PCUs			Total PCUs (Background + Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 N85 south of Claureen R'bout	11,434	1,659	13,093	70	528	598	11,504	2,187	13,691

2 N85 west of Claureen R'bout	20,433	2,203	22,637	70	528	598	20,503	2,731	23,235
3 N85 south of Inagh	6,973	715	7,689	70	528	598	7,043	1,243	8,287
4 R460 west of Inagh	3,354	335	3,689	70	528	598	3,424	863	4,287
5 L1074	395	13	409	70	528	598	465	541	1,007

Table 15-18 Daily development traffic during turbine construction - extended articles (large turbine components)

Link	Background PCUs			Development PCUs			Total PCUs (Background + Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 N85 south of Claureen R'bout	11,434	1,659	13,093	70	60	130	11,504	1,719	13,223
2 N85 west of Claureen R'bout	20,433	2,203	22,637	70	60	130	20,503	2,263	22,767
3 N85 south of Inagh	6,973	715	7,689	70	60	130	7,043	775	7,819
4 R460 west of Inagh	3,354	335	3,689	70	60	130	3,424	395	3,819
5 L1074	395	13	409	70	60	130	465	73	539

Table 15-19 Daily effect of development traffic during turbine construction - other deliveries (small turbine components)

Link	Background PCUs			Development PCUs			Total PCUs (Background + Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 N85 south of Claureen R'bout	11,434	1,659	13,093	45	19	64	11,479	1,678	13,157
2 N85 west of Claureen R'bout	20,433	2,203	22,637	45	19	64	20,478	2,222	22,701
3 N85 south of Inagh	6,973	715	7,689	45	19	64	7,018	734	7,753

Link	Background PCUs			Development PCUs			Total PCUs (Background + Development)		
4 R460 west of Inagh	3,354	335	3,689	45	19	64	3,399	354	3,753
5 L1074	395	13	409	45	19	64	440	32	473

Table 15-20 Daily effect of development traffic during general construction only

Link	Background PCUs			Development PCUs			Total PCUs (Background + Development)		
	Car	HGV	Total	Car	HGV	Total	Car	HGV	Total
1 N85 south of Claureen R'bout	11,434	1,659	13,093	45	46	91	11,479	1,705	13,184
2 N85 west of Claureen R'bout	20,433	2,203	22,637	45	46	91	20,478	2,249	22,728
3 N85 south of Inagh	6,973	715	7,689	45	46	91	7,018	761	7,780
4 R460 west of Inagh	3,354	335	3,689	45	46	91	3,399	381	3,780
5 L1074	395	13	409	45	46	91	440	59	500

Table 15-21 Daily summary effect of development traffic during general construction and grid construction

Link	Background	Development	Total	% increase	Estimated No. of days
1 N85 south of Claureen R'bout	13,093	204	13,297	1.6%	71
2 N85 west of Claureen R'bout	22,637	204	22,841	0.9%	71
3 N85 south of Inagh	7,689	204	7,893	2.7%	71
4 R460 west of Inagh	3,689	204	3,893	5.5%	71
5 L1074	409	204	613	49.9%	71

Table 15-22 Daily summary effect of development traffic during concrete foundation deliveries

Link	Background	Development	Total	% increase	Estimated No. of days
1 N85 south of Claureen R'bout	13,093	598	13,691	4.6%	9
2 N85 west of Claureen R'bout	22,637	598	23,235	2.6%	9
3 N85 south of Inagh	7,689	598	8,287	7.8%	9
4 R460 west of Inagh	3,689	598	4,287	16.2%	9
5 L1074	409	598	1,007	146.3%	9

Table 15-23 Daily summary effect of development traffic during turbine construction – extended articles (large turbine components)

Link	Background	Development	Total	% increase	Estimated No. of days
1 N85 south of Claureen R'bout	13,093	130	13,223	1.0%	24
2 N85 west of Claureen R'bout	22,637	130	22,767	0.6%	24
3 N85 south of Inagh	7,689	130	7,819	1.7%	24
4 R460 west of Inagh	3,689	130	3,819	3.5%	24
5 L1074	409	130	539	31.8%	24

Table 15-24 Daily summary effect of development traffic during turbine construction – other deliveries (small turbine components)

Link	Background	Development	Total	% increase	Estimated No. of days
1 N85 south of Claureen R'bout	13,093	64	13,157	0.5%	9
2 N85 west of Claureen R'bout	22,637	64	22,701	0.3%	9
3 N85 south of Inagh	7,689	64	7,753	0.8%	9

4 R460 west of Inagh	3,689	64	3,753	1.7%	9
5 L1074	409	64	473	15.7%	9

Table 15-25 Daily summary effect of development traffic during general construction only

Link	Background	Development	Total	% increase	Estimated No. of days
1 N85 south of Claureen R'bout	13,093	91	13,184	0.7%	270
2 N85 west of Claureen R'bout	22,637	91	22,728	0.4%	270
3 N85 south of Inagh	7,689	91	7,780	1.2%	270
4 R460 west of Inagh	3,689	91	3,780	2.5%	270
5 L1074	409	91	500	22.3%	270

15.1.6.2 Link Capacity Assessment

An assessment of the impact on link capacities in the study area was undertaken for the various construction stages as set out in Table 15-25, Table 15-26 and Table 15-27. The capacity for each link in the study area is shown in Table 15-26. The capacities range from a daily flow of 11,600 vehicles on the N85 south of the Claureen Roundabout (Link 1), to 8,600 on the N85 to the west of the roundabout (Link 2), down to 5,000 on the R460 and L1074, and are based on road widths and capacities set out in the TII Standards document DN-GEO-03031 Road Link Design, Table 6/1. It is noted that the link capacities adopted from the TII guidelines correspond to a Level of Service D, which the guidelines describe as being the level where;

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

Background, or do-nothing traffic flows, are compared to flows forecast for the various construction delivery stages in Table 15-27 with the percentage capacity reached for each link and stage shown in Table 15-28. Based on this assessment the following points are noted;

- On the external network the N85 to the west of the Claureen Roundabout (Link 2) is the busiest road with the link capacity forecast to operate at 263% for the do-nothing scenario, increasing to a maximum of 270% during the 9 days that the concrete foundations will be poured. During all other construction days, it is forecast that construction traffic will increase traffic volumes on this link by a maximum of three percentage points.
- Similarly, on the N85 to the south of the Claureen Roundabout (Link 1), it is also forecast that this link will operate over capacity for the do-nothing scenario at 113%. This is forecast to increase to a maximum of 118% during the 9 days that the concrete foundations will be poured. During all other construction days, it is forecast that

construction traffic will increase traffic volumes on this link by a maximum of two percentage point.

- All other sections of the haul routes are forecast to operate within capacity for the duration of the construction period.

Table 15-26 Carriageway widths, link type and link capacity

Link	Width (m)	Link type	Link capacity
1 N85 south of Claureen R'bout	7.0	Type 1 single	11,600
2 N85 west of Claureen R'bout	7.0	Type 2 single	8,600
3 N85 south of Inagh	7.0	Type 2 single	8,600
4 R460 west of Inagh	6.0	Type 3 single	5,000
5 L1074	6.0	Type 3 single	5,000

Table 15-26a Link capacity and summary of link flows by construction delivery stage

Link	Link capacity	Construction delivery stage					
		Background traffic	General construction + Proposed Grid Connection Site construction	Concrete foundations	Turbine plant	Turbine equipment	General construction only
1 N85 south of Claureen R'bout	11,600	13,093	13,297	13,691	13,223	13,157	13,184
2 N85 west of Claureen R'bout	8,600	22,637	22,841	23,235	22,767	22,701	22,728
3 N85 south of Inagh	8,600	7,689	7,893	8,287	7,819	7,753	7,780
4 R460 west of Inagh	5,000	3,689	3,893	4,287	3,819	3,753	3,780
5 L1074	5,000	409	613	1,007	539	473	500

Table 15-27 Link capacity and % of link capacity by construction delivery stage

Link	Link capacity	Construction delivery stage					
		Background traffic	General construction + Proposed Grid Connection Site construction	Concrete foundations	Turbine plant	Turbine equipment	General construction only
1 N85 south of Claureen R'bout	11,600	113%	115%	118%	114%	113%	114%
2 N85 west of Claureen R'bout	8,600	263%	266%	270%	265%	264%	264%
3 N85 south of Inagh	8,600	89%	92%	96%	91%	90%	90%
4 R460 west of Inagh	5,000	74%	78%	86%	76%	75%	76%
5 L1074	5,000	8%	12%	20%	11%	9%	10%

15.1.6.3 Effect on Link Flows – During Operation

Once the Proposed Project is operational, it is estimated that there will be approximately 1-2 maintenance staff accessing the site at any particular time, to carry out operational maintenance, with a similar number of vehicle trips. It is considered that the traffic impact during this phase will be imperceptible.

15.1.6.4 Effect on Junctions – During Construction

The capacity of the existing N85 / R460 junction located in the village of Inagh was assessed using the industry standard junction simulation software PICADY, which permits the capacity of any junction to be assessed with respect to existing or forecast traffic movements and volumes for a given period. The capacity for each movement possible at the junction being assessed is determined from geometric data input into the program with the output used in the assessment as follows:

- Queue – This is the average queue forecast for each movement and is useful to ensure that queues will not interfere with adjacent junctions.
- Degree of Saturation or Ratio of Flow to Capacity (% Sat or RFC) – As suggested, this offers a measure of the amount of available capacity being utilised for each movement. Ideally each movement should operate at a level of no greater than 85% of capacity.

- Delay – Output in minutes, this gives an indication of the forecast average delay during the time period modelled for each movement.

15.1.6.4.1 Scenarios Modelled

While other junctions and links on the network will experience an increase in traffic volumes passing through them, as discussed previously and as set out in Tables 15-21 to 15-25 above, the worst-case effect will be experienced during peak hours when, during peak construction periods, up to 70 workers (35 cars) will pass through it. It is noted that deliveries of materials to the site will take place during the day after the workers have arrived on site, and before they leave at the end of the day and will therefore not occur at the same time. In order to test a precautionary scenario however, the test is based on staff traffic travelling to and from the Site during the AM and PM peak hours, with the maximum number of concrete deliveries occurring in one hour also travelling in and out of the junction.

15.1.6.4.2 N85 / R460 access junction Capacity Test Results

The AM and PM peak hour traffic flows for the base year 2026 and the proposed construction year of 2029 are shown in Figures 15-5a and 15-5b respectively. The additional traffic movements that are forecast to be generated by construction workers are shown in Figure 15-5c, while the maximum HGV movements and PCUs that may be generated in one hour are shown in Figures 15-5d and 15-5e. The resulting peak hour traffic movements for the with construction scenario in 2029 are shown in Figure 15-5f.

The results of the capacity test for this junction are set out in Table 15-28 and forecast that the development generated traffic will result in an increase to the maximum ratio of flow to capacity (RFC) from 49.6% to 55.9% during the AM peak hour, which will apply to traffic from the R460 turning right onto the N85, and from 20.9% to 32.0% during the PM peak hour, which will apply to the same movement. The results of the junction capacity tests show that the additional traffic movements passing through the junction will be accommodated and have a minor effect on the operation of the junction. The assessment shows that the junction is forecast to operate well within the acceptable limit of 85% in accordance with TII guidelines.

Table 15-28 Junction capacity test results, N85 / R460 junction, AM and PM peak hours, without and with all construction traffic, year 2029

Period	Location	Without construction traffic			With construction traffic		
		RFC	Queue (vehicles)	Delay (minutes)	RFC	Queue (vehicles)	Delay (minutes)
AM	From L5212	5.2%	0.06	0.19	5.4%	0.06	0.19
	From R460 – left turn	15.7%	0.18	0.13	16.1%	0.19	0.14
	From R460 – right turn	49.6%	0.96	0.34	55.9%	1.23	0.40
	Right turn from N85 into L5212	0.0%	0.00	0.00	0.0%	0.00	0.00

Period	Location	Without construction traffic			With construction traffic		
	Right turn from N85 into R460	21.7%	0.43	0.11	26.9%	0.55	0.12
PM		RFC	Queue (vehicles)	Delay (minutes)	RFC	Queue (vehicles)	Delay (minutes)
	From L5212	1.0%	0.01	0.18	1.0%	0.01	0.19
	From R460 – left turn	9.1%	0.10	0.12	13.0%	0.15	0.13
	From R460 – right turn	20.9%	0.26	0.23	32.0%	0.47	0.27
	Right turn from N85 into L5212	0.6%	0.01	0.07	0.6%	0.01	0.07
	Right turn from N85 into R460	14.0%	0.24	0.12	14.5%	0.27	0.12

15.1.6.4.3 **Effect on Junctions – During Operation**

As discussed in Section 15.1.6.3, it is forecast that once operational, the Proposed Project will generate approximately 1 to 2 trips per day for maintenance purposes. It is therefore concluded that the Proposed Project will not have a significant effect on the local network once constructed.

15.1.7 **Effect on Network of Proposed Grid Connection Site**

The planning application includes proposed 33kV underground cabling to the proposed extension to the existing Slievecallan 110kV substation, having a total length of approximately 7.1km.

The Proposed Grid Connection Site is shown in Figure 4-3 of Chapter 4 Description of the Proposed Project.

The Proposed Grid Connection Site does not impact on the National Road Network. The proposed 33kV underground cabling exits the Proposed Wind Farm site, through forestry for approximately 0.83km, onto a farm track for 0.55km before entering the public road corridor on the R460. It stays within the public road corridor of the R460 for approximately 1.55km. For the section of proposed 33kV underground cabling within the R460, the cable will be set within the curtilage of the R460 with a “Stop-and Go” traffic management system in place to retain alternate one-way traffic flow on the R460. This assessment is based on 1 team constructing the proposed 33kV underground cabling at any given time, equating to laying approximately 100m per day. In reality, on this section the proposed 33kV underground cabling will be installed by 2 teams, one operating at either end, with each team laying approximately 100 metres of cable per day, equating to a total of 200 metres per day. Traffic on the R460 will therefore experience minor delays on this section of the R460 for approximately 8 days. The proposed 33kV underground cabling then travels south for approximately 4.17 kms traveling through existing private access tracks, forestry and agricultural land before reaching the proposed substation extension.

All traffic for the Proposed Grid Connection Site will be delivered via the delivery (haul) routes as shown in Figure 15-1.

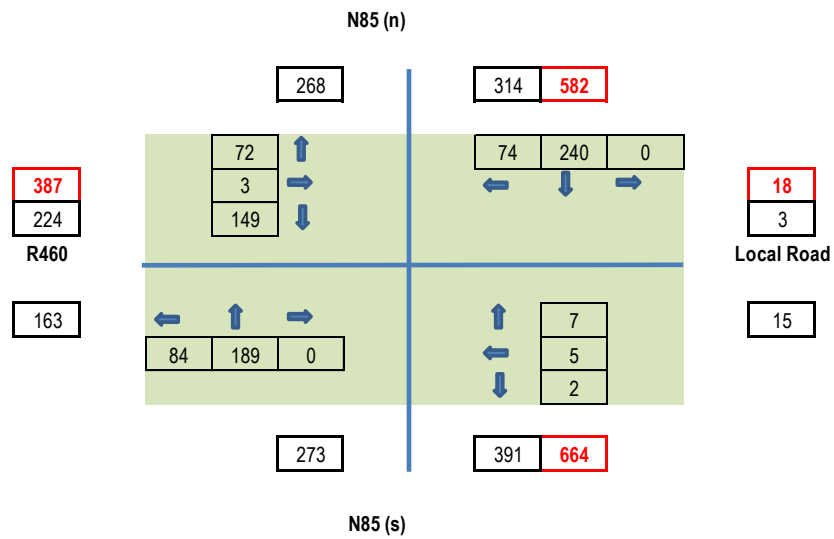
With respect to the traffic volumes that will be generated during the construction of the proposed 33kV underground cabling, it is estimated that there will be approximately 15 daily return trips made by a truck transporting materials, and 8 made by a car to transport 16 construction staff to and from the Proposed Grid Connection Site. The impact of the additional traffic that will be generated on the network during the construction of the Proposed Grid Connection is presented in Section 15.1.4.

It is proposed that construction staff will travel to and from the point of construction along the Proposed Grid Connection by minibus, or alternatively, staff will travel to the site by carpooling encouraged as part of a staff travel plan. By its nature the impacts of these additional trips on the network will be transient and will therefore be temporary and slight, and not significant.

The construction methodology of providing underground cabling within and along local road networks is well established and accepted nationwide. There are in excess of 300 wind farms currently operational in Ireland and the majority of these are connected to the national grid via underground cable connections, predominantly along the public road networks.

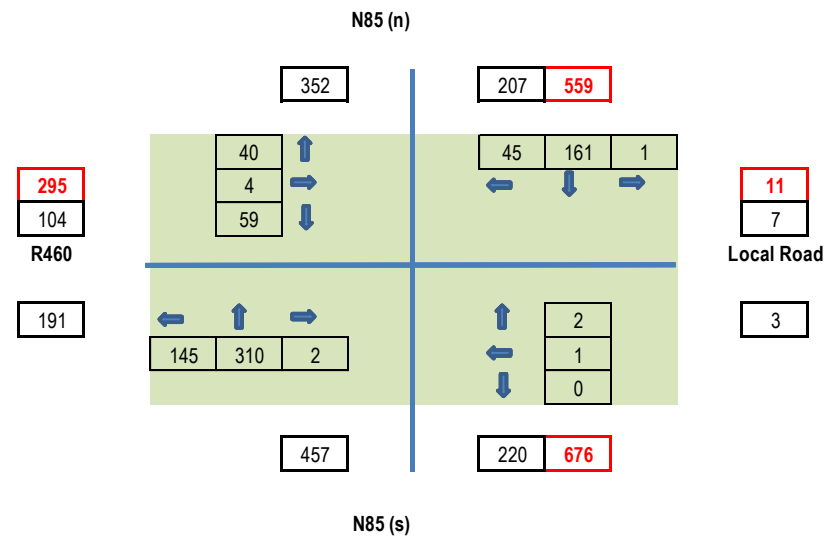
A **Traffic Management Plan (TMP)**, incorporating all the mitigation measures is included as Appendix 15-2 of this EIAR, and will be finalised and confirmatory detailed provisions in respect of traffic management agreed with the road's authority and An Garda Síochána prior to construction works commencing on site.

AM Peak hour - 08:00 to 09:00



All flows in pcus

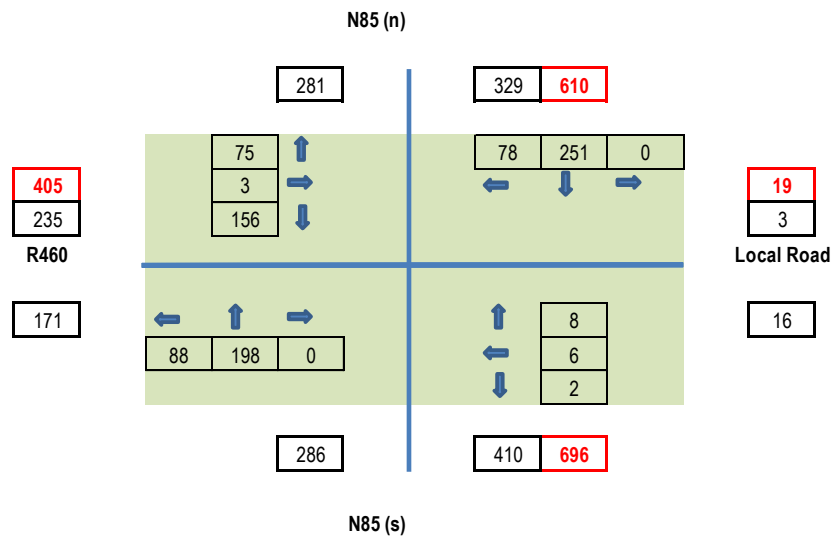
PM Peak hour - 17:00 to 18:00



All flows in pcus

Figure 15-5a Observed traffic flows, N85 / R460 junction, AM and PM peak hours, Year 2026, pcus (seasonally adjusted)

AM Peak hour - 08:00 to 09:00



PM Peak hour - 17:00 to 18:00

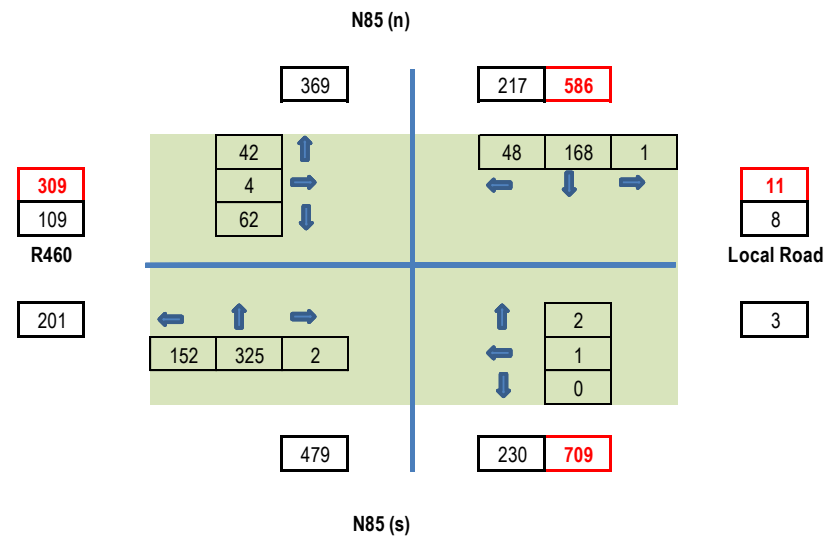
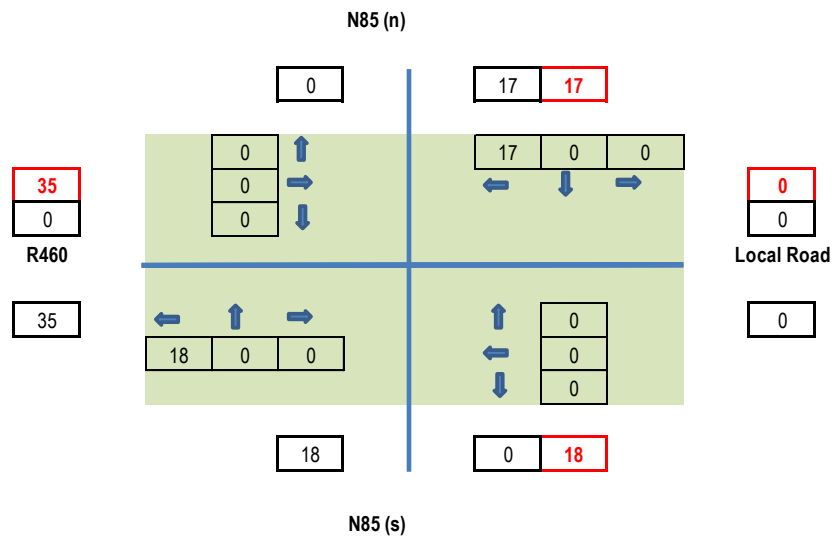


Figure 15-5b Forecast traffic flows, N85 / R460 junction, AM and PM peak hours, Year 2029, pcus

AM Peak hour - 08:00 to 09:00



PM Peak hour - 17:00 to 18:00

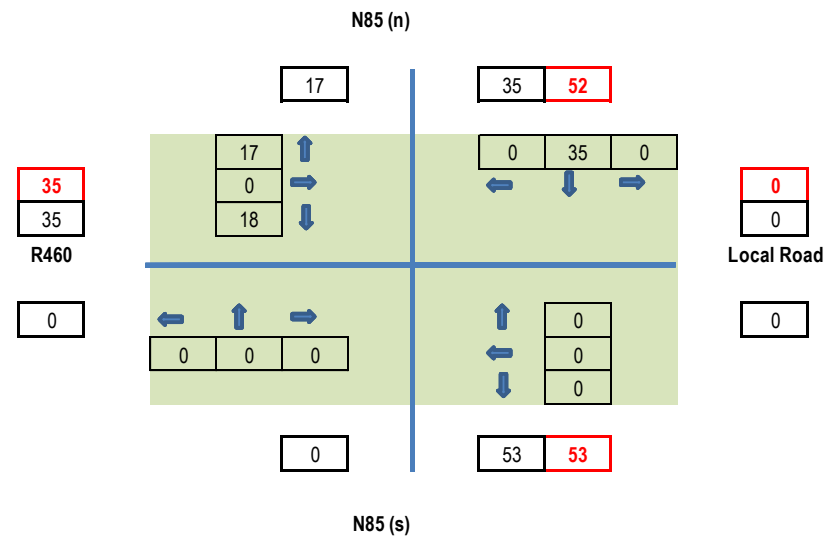
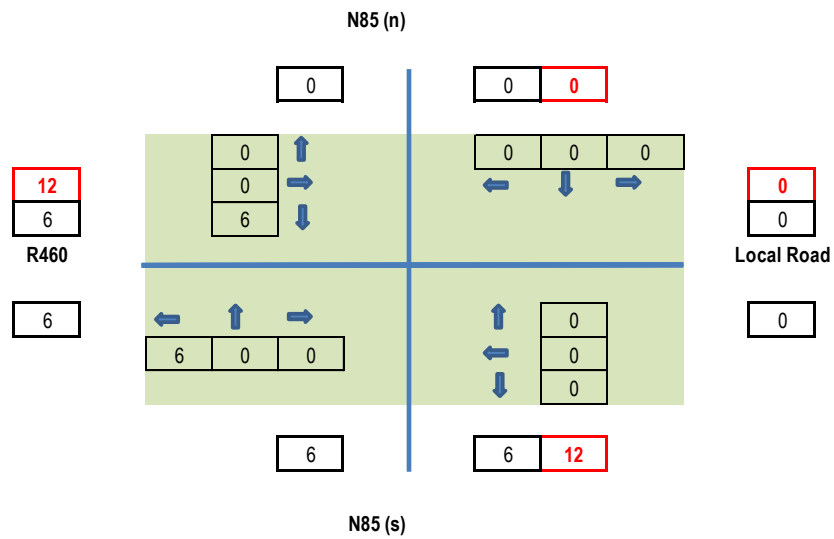


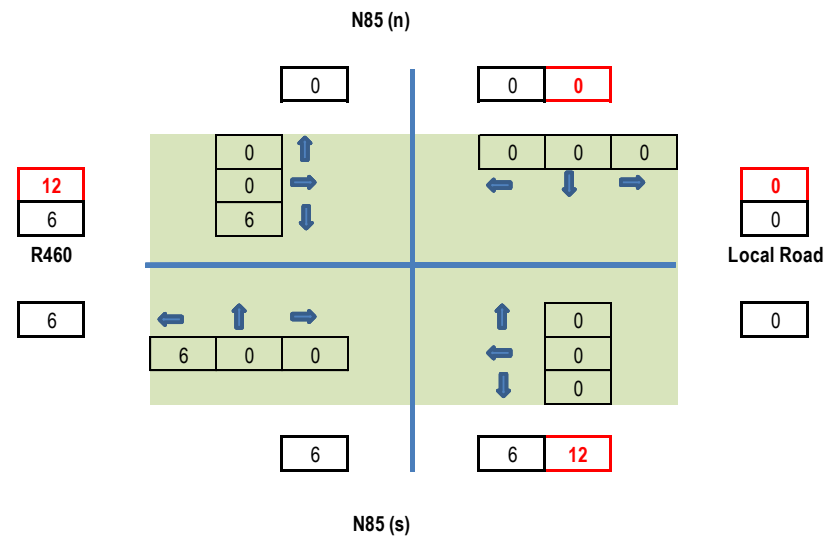
Figure 15-5c Construction staff traffic flows, N85 / R460 junction, AM and PM peak hours, pcus

AM Peak hour - 08:00 to 09:00



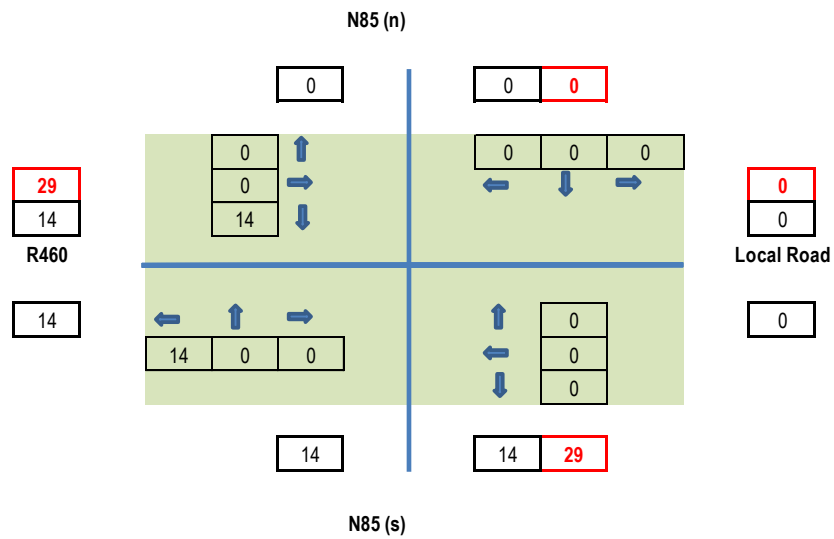
All flows in pcus

PM Peak hour - 17:00 to 18:00



All flows in pcus

AM Peak hour - 08:00 to 09:00



PM Peak hour - 17:00 to 18:00

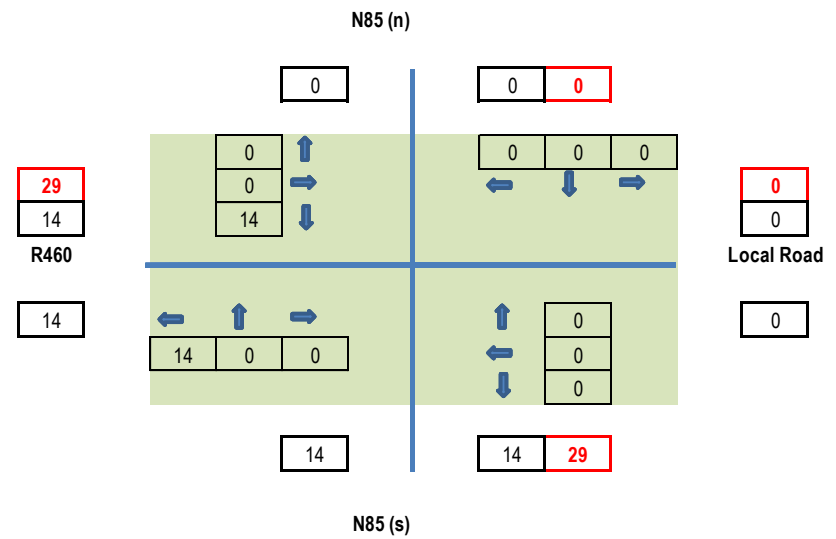
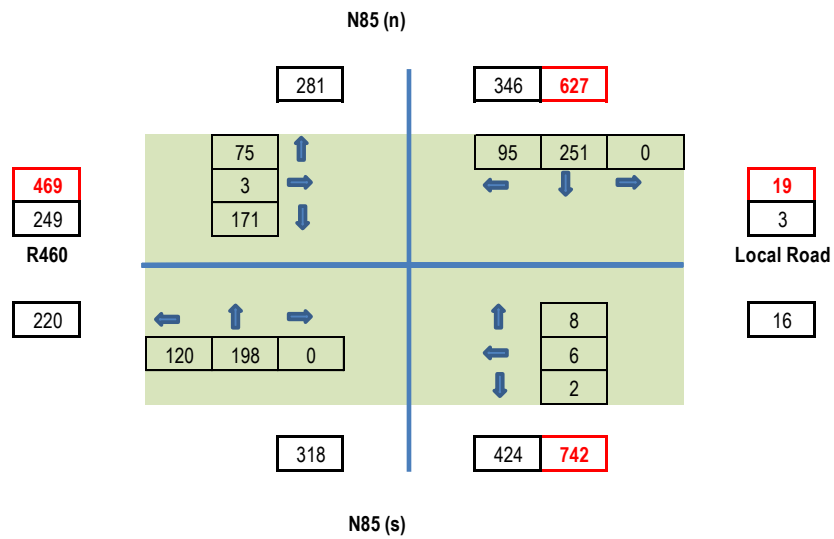


Figure 15-5e Foundation concrete delivery trips, N85 / R460 junction, AM and PM peak hours, pcus

AM Peak hour - 08:00 to 09:00



PM Peak hour - 17:00 to 18:00

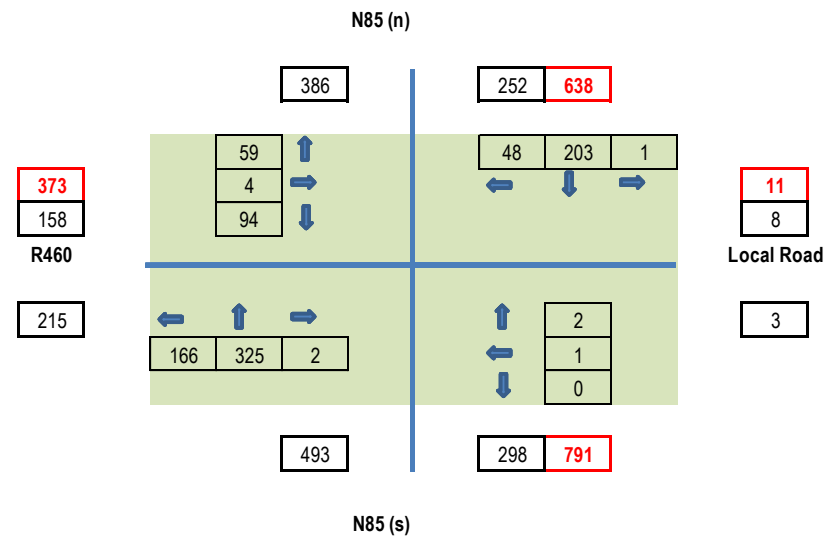


Figure 15-5f With all construction traffic flows, N85 / R460 junction, AM and PM peak hours, Year 2029, pcus

The construction methodology of providing a cable route under and along local road networks is well established and accepted nationwide. There are just under 400 wind farms currently operational in Ireland (Republic and Northern Ireland combined, as per latest available figures on www.windenergyireland.com) and the majority of these are connected to the national grid via underground cable connections predominantly along the public road networks.

15.1.8 Traffic Management of Large Deliveries

Traffic management measures include the following:

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

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

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

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

15.1.9 Abnormal Load Route Assessment

A route assessment was undertaken covering the proposed delivery route for the abnormal loads, with the route and assessment locations shown in Figure 15-2a. For these locations, preliminary road and junction alignments, based on land surveys and OS mapping, were supplied by the project team. A preliminary swept path analysis was then undertaken using Autotrack in order to establish the locations where the wind turbine transport vehicles will be accommodated, and the locations where some form of remedial measure may be required.

There are sections on the L1074, as indicated on Figure 15-1, where the vertical alignment may require specialist transport vehicles and these sections will be further considered by the appointed transport company following the turbine procurement process. Accommodation works will be required at various locations on the national and regional road network between the port of arrival and Ennis. These will be limited to temporary measures including temporary local road widening, overruns of roundabout island and temporary relocation of some signs and street furniture. In line with best practice, it is recommended to carry out a dry-run assessment prior to construction.

For locations 1 to 6 that approach the Site from the turnoff from the N85 to the Proposed Wind Farm Site access inclusive, the results of the swept path analysis together with proposed temporary works required to accommodate the abnormally sized loads are discussed below. No location was identified between the Port of Foynes and the N85 Claureen Roundabout that required significant accommodation works. This Autotrack assessment is included in Appendix 15-3. The assessment presents the preliminary design of the Proposed Wind Farm Site access junction off the L6230 and the Autotrack assessment for the appropriate vehicle types relevant to each access.

The locations discussed are as follows;

- Location 1 – N85 / R460 junction at Inagh
- Location 2 – Bend on R460
- Location 3 – R460 / L1074 junction
- Location 4 – Bend on L1074 / L1076
- Location 5 – L1076 / L6230 junction
- Location 6 – Proposed Wind Farm Site Access (L6230 / forestry access road junction)

Location 1 – N85 / R460 junction at Inagh

See Figures 15-6 and 15-7

The swept path analysis undertaken for this location indicates that all available space between existing buildings will require to be utilised to accommodate the turning requirements of the blade vehicle. Minor temporary alterations will be required to the existing streetscape during the delivery of the abnormally sized loads.

Location 2 – Bend on R460

See Figures 15-8 and 15-9

The swept path analysis undertaken for this location shows that the abnormally sized turbine vehicles will be accommodated at this location with minor impacts on sections of hedge (over-sail) and grass verge.

Location 3 – R460 / L1074 junction

See Figures 15-10 and 15-11

The preliminary swept path analysis indicates that the wind farm turbine vehicles will be able to negotiate this bend junction.

Location 4 – Bend on L1074 / L1076

See Figures 15-12 and 15-13

The preliminary swept path analysis indicates that the wind farm blade vehicle will require a narrow strip over overrun on the southern corner of this junction.

Location 5 – L1076 / L6230 junction

See Figures 15-14 to 15-17

The analyses shown in these figures indicate that temporary local road widening will be required at this junction in order to accommodate the wind turbine vehicles. Again, while there are options at this location to provide for the turning areas required, the option shown in Figures 15-14 to 15-17 is based on land take from the north western corner of the junction. For this option abnormally sized loads are required to drive on the L1076 past the L6230 and then reverse back into the local road that links into the L1076 from the north. The abnormally sized loads are then in a position to drive straight towards the access junction on the L6230.

Visibility splay requirements on local roads with 60 kph speed limits, which is the case for both the L1076 and the L6230, are set out in Appendix 1 Development Management Guidelines of the current

Clare County Development Plan 2023 – 2029, Section A1.6.2. For a 60 kph speed a visibility splay of 90m along the nearside carriageway edge taken from setback of 2.5m is required. The splays are shown in 15-15. It is noted that the visibility splays at this existing junction are partially constrained by shrubs and bushes on the southern verge of the L1076 between the carriageway edge and the boundary fence to the east and west of the junction with the L6230. As this is an existing junction it is assumed that maintenance works will be undertaken by Clare County Council to provide the required visibility splays at this junction. In the event that the splays are not maintained by Clare County Council, temporary traffic management measures, including traffic signs and the presence of a Flagman, will be introduced at this location on busy delivery days associated with the Proposed Project.

15.1.9.1 Site Access Junction

Location 6 – Proposed Wind Farm Site Access (L6230 / forestry access road junction)

See Figures 15-18 to 15-21

The proposed junction layout, including the temporary run-over area shown on the western side of the L6230, required for the delivery of the abnormally sized turbine vehicles, is shown in Figure 15-18. The proposed junction design is based on the HGV access guidance set out by TII and includes 13m junction radii.

While it is understood the L6230 is designated as a 60 kph speed limit, due to the local nature of the L6230 and the bend in the road located just to the south of the access junction it is clear that actual speeds at the location of the access junction are lower than 60 km/h. This is confirmed from the results of a speed survey undertaken over a 24 hour period on Thursday 17th June 2021 by Traffinomics Surveys Ltd, which established 85th percentile speeds of 48.24 km/h and 44.78 km/h for northbound and southbound directions respectively. It is acknowledged that in the scoping response received from the Road Section of Clare County Council that visibility splays based on speed surveys are not accepted, the visibility splays appropriated for both the 50 kph (70m) and the 60 kph (90m) speeds are shown in Figures 15-19a and 15-19b respectively. It is proposed that the 70m splays are provided as it is considered they are what is required to provide the required sight stopping distances at the junctions, although 90msplays will be provided if requested by Clare County Council.

It is noted that the proposed junction and visibility splays are not yet in place, so existing sightlines may be obstructed by existing boundaries. The swept path analysis set out in Figures 15-20 to 15-21 shows that the proposed layout will accommodate all vehicles requiring access to the Proposed Wind Farm Site.



NOTES:
 PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-6 Location 1 - N85 / R460 junction at Inagh, blade extended artic (75m)

PROJECT: Slieveacurry Renewable Energy Development	
CLIENT: Slieveacurry Ltd.	SCALE: 1:1000
PROJECT NO: 9101	DATE: 22.04.26
	DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

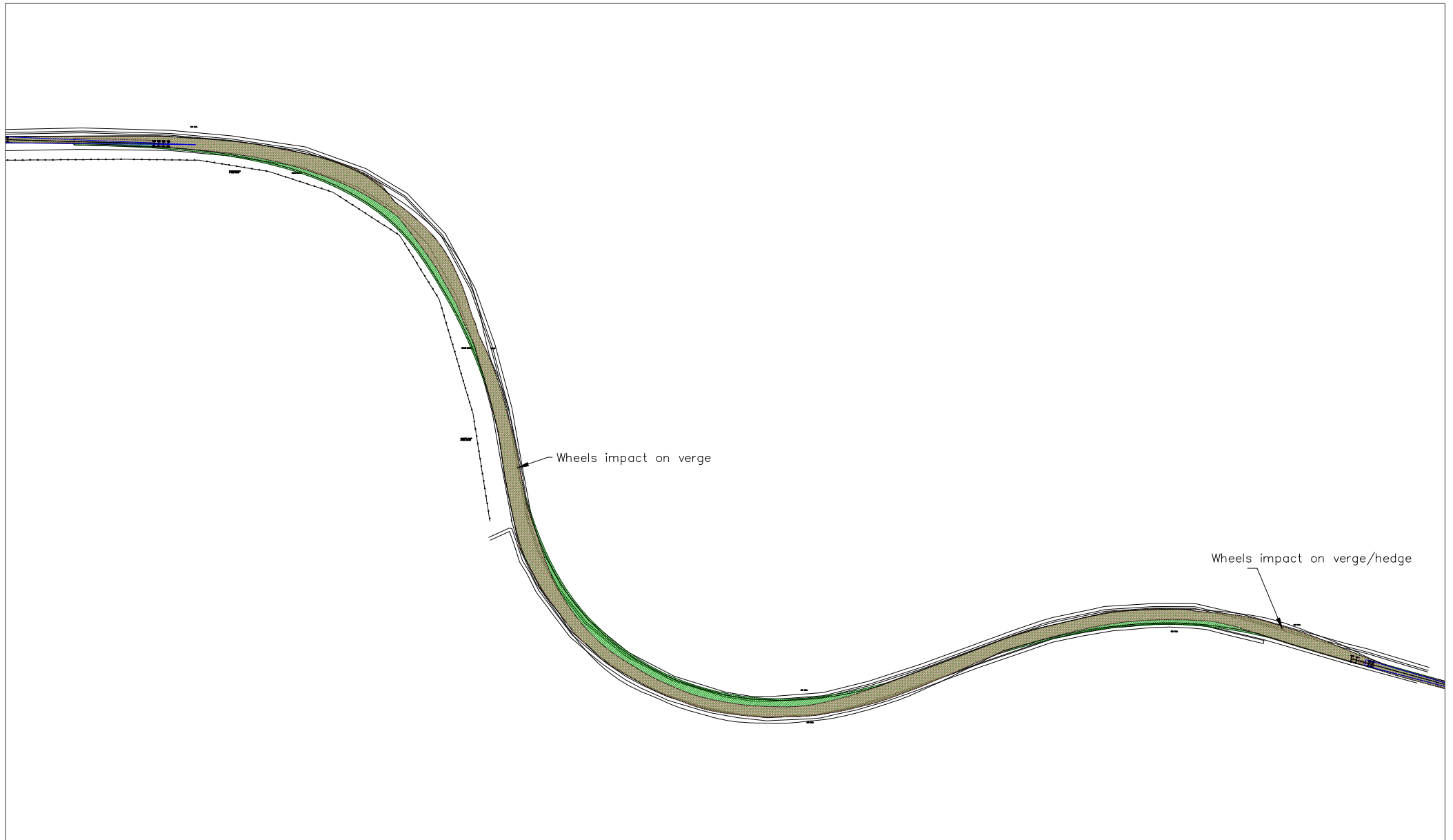


NOTES:
 PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-7 Location 1 - N85 / R460 junction at Inagh, tower extended artic

PROJECT: Slieveacurry Renewable Energy Development	
CLIENT: Slieveacurry Ltd.	SCALE: 1:1000
PROJECT NO: 9101	DATE: 22.04.26
DRAWN BY: AL	

ALAN LIPSCOMBE
 TRAFFIC & TRANSPORT CONSULTANTS

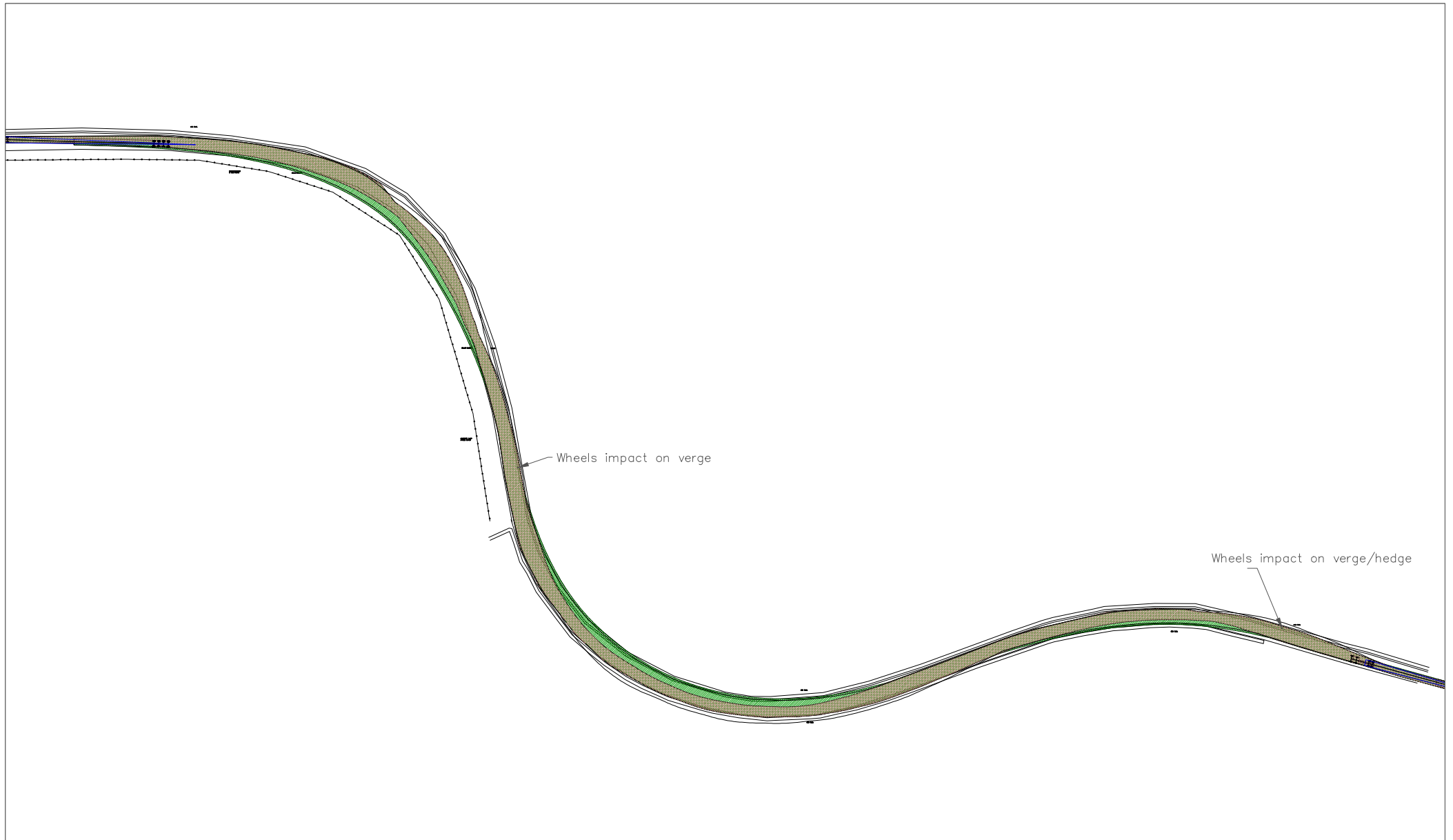


NOTES:
 PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-8 Location 2 - Bends on R460, blade extended artic (75m)

PROJECT: Slieveacurry Renewable Energy Development	
CLIENT: Slieveacurry Ltd.	SCALE: 1:2000
PROJECT NO: 9101	DATE: 22.04.26
	DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS



NOTES: PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES	Figure 15-9 Location 2 - Bends on R460, tower extended artic			ALAN LIPSCOMBE TRAFFIC & TRANSPORT CONSULTANTS
	PROJECT: Slieveacurry Renewable Energy Development		SCALE: 1:2000	
	CLIENT: Slieveacurry Ltd.		DRAWN BY: AL	
	PROJECT NO: 9101	DATE: 22.04.26		



NOTES: PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES	Figure 15-10 Location 3 - R460 / L1076 junction, blade extended artic (75m)			ALAN LIPSCOMBE TRAFFIC & TRANSPORT CONSULTANTS
	PROJECT: Slieveacurry Renewable Energy Development			
	CLIENT: Slieveacurry Ltd.	SCALE: 1:1000		
	PROJECT NO: 9101	DATE: 22.04.26	DRAWN BY: AL	



NOTES: PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES	Figure 15-11 Location 3 - R460 / L1076 junction, tower extended artic			ALAN LIPSCOMBE TRAFFIC & TRANSPORT CONSULTANTS
	PROJECT: Slieveacurry Renewable Energy Development			
	CLIENT: Slieveacurry Ltd.	SCALE: 1:1000		
	PROJECT NO: 9101	DATE: 22.04.26	DRAWN BY: AL	



NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-12 Location 4 - Bend on L1076, blade extended artic (75m)

PROJECT: Slieveacurry Renewable Energy Development

CLIENT: Slieveacurry Ltd.

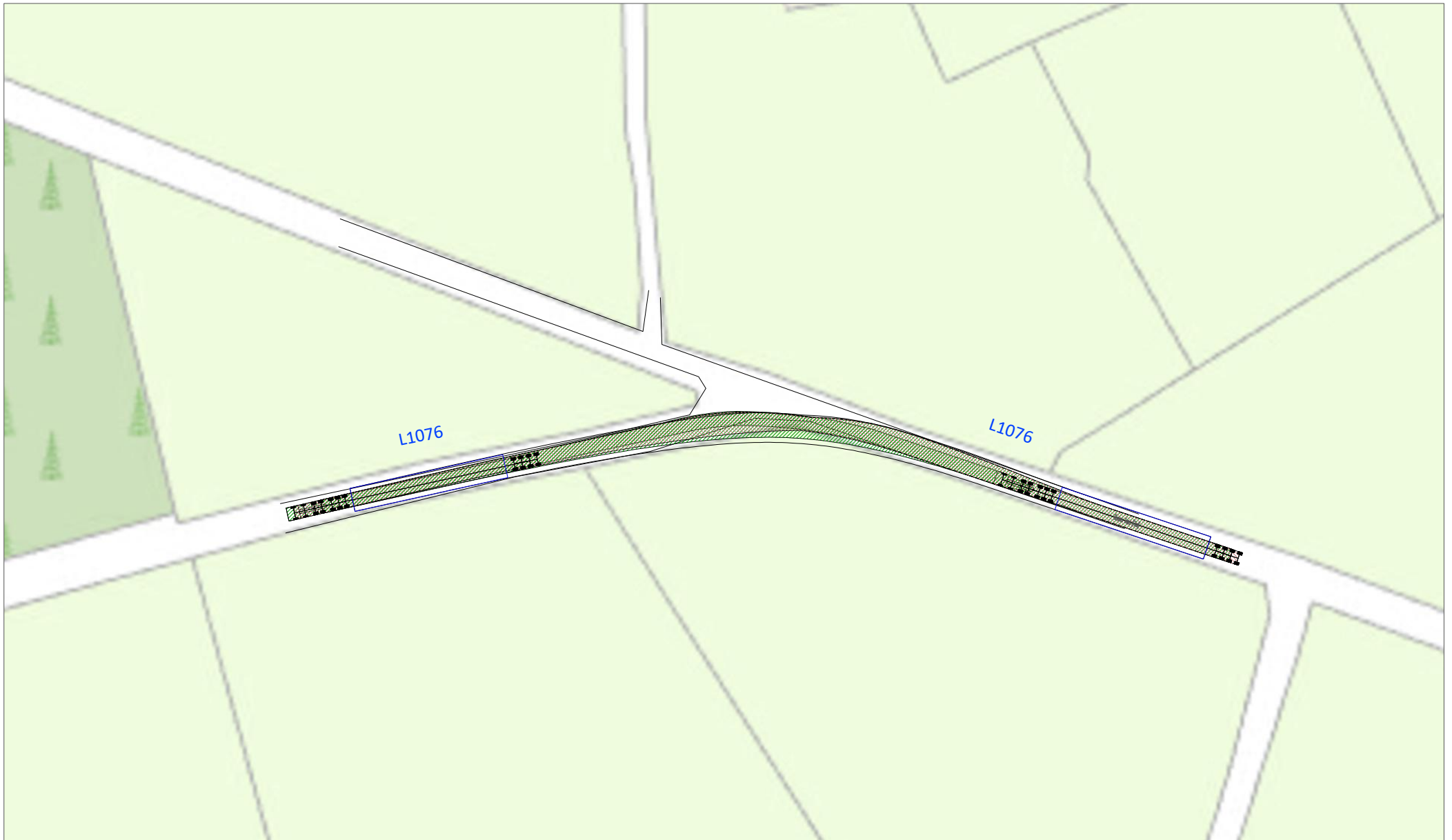
SCALE: 1:1000

PROJECT NO: 9101

DATE: 22.04.26

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS



NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-13 Location 4 - Bend on L1076, tower extended artic

PROJECT: Slieveacurry Renewable Energy Development

CLIENT: Slieveacurry Ltd.

SCALE: 1:1000

PROJECT NO: 9101

DATE: 22.04.26

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 5 - L1076 / L6230 junction

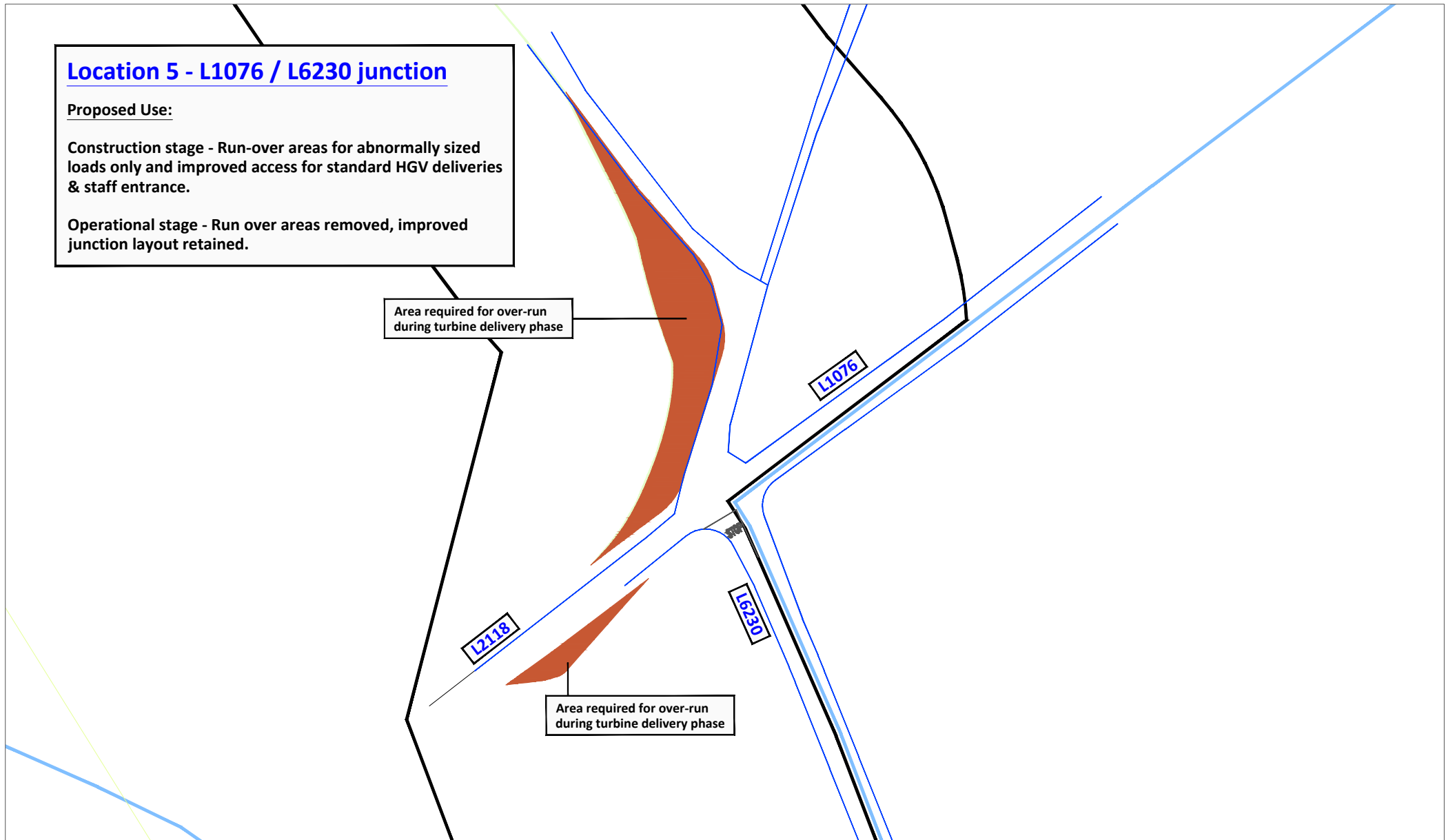
Proposed Use:

Construction stage - Run-over areas for abnormally sized loads only and improved access for standard HGV deliveries & staff entrance.

Operational stage - Run over areas removed, improved junction layout retained.

Area required for over-run during turbine delivery phase

Area required for over-run during turbine delivery phase



NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-14 Location 5 - L1076 / L6230 junction, junction layout

PROJECT: Slieveacurry Renewable Energy Development

CLIENT: Slieveacurry Ltd.

PROJECT NO: 9101

DATE: 22.04.26

SCALE: 1:1000@A4

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 5 - L1076 / L6230 junction

Proposed Use:

Construction stage - Run-over areas for abnormally sized loads only and improved access for standard HGV deliveries & staff entrance.

Operational stage - Run over areas removed, improved junction layout retained.

Area required for over-run during turbine delivery phase

3.0m x 90m visibility splay

Area required for over-run during turbine delivery phase

3.0m x 90m visibility splay

Figure 15-15 Location 5 - L1076 / L6230 junction, junction layout with visibility splay (3.0m x 90m)

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

PROJECT: Slieveacurry Renewable Energy Development

CLIENT: Slieveacurry Ltd.

PROJECT NO: 9101

DATE: 22.04.26

SCALE: 1:1000@A4

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 5 - L1076 / L6230 junction

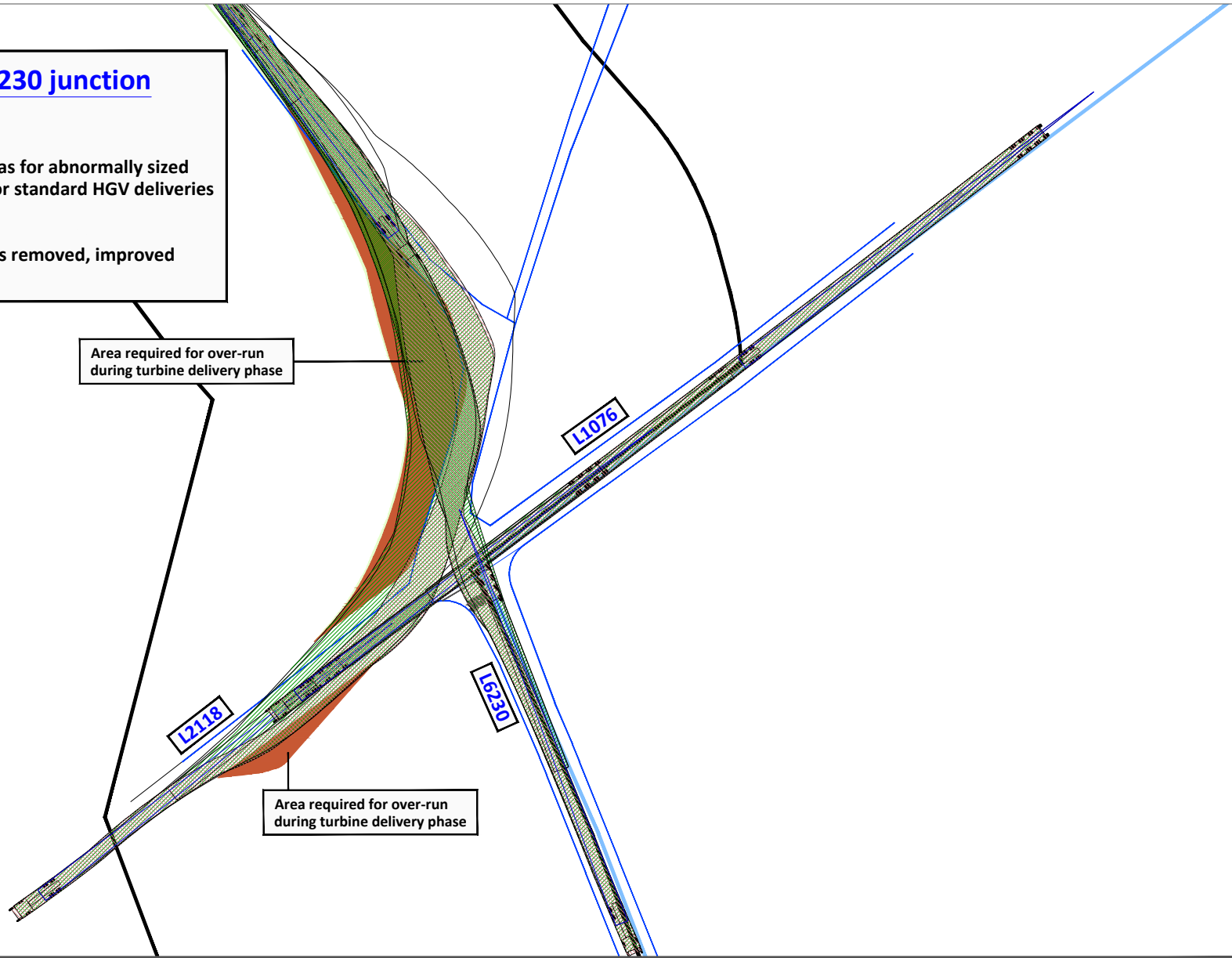
Proposed Use:

Construction stage - Run-over areas for abnormally sized loads only and improved access for standard HGV deliveries & staff entrance.

Operational stage - Run over areas removed, improved junction layout retained.

Area required for over-run during turbine delivery phase

Area required for over-run during turbine delivery phase



NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-16 Location 5 - L1076 / L6230 junction, blade extended artic

PROJECT: Slieveacurry Renewable Energy Development

CLIENT: Slieveacurry Ltd.

PROJECT NO: 9101

DATE: 22.04.26

SCALE: 1:1000@A4

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 5 - L1076 / L6230 junction

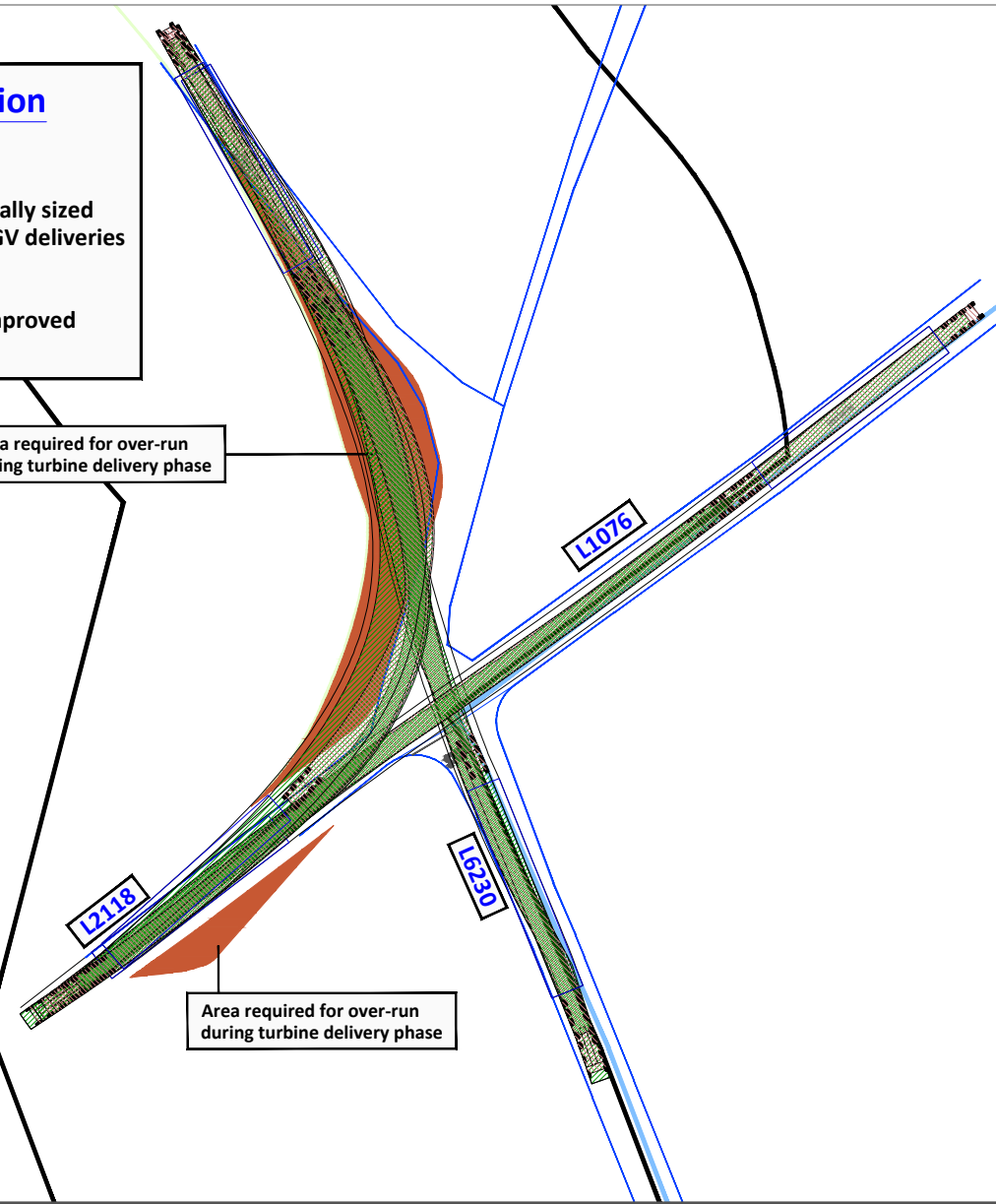
Proposed Use:

Construction stage - Run-over areas for abnormally sized loads only and improved access for standard HGV deliveries & staff entrance.

Operational stage - Run over areas removed, improved junction layout retained.

Area required for over-run during turbine delivery phase

Area required for over-run during turbine delivery phase



NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-17 Location 5 - L1076 / L6230 junction, tower extended artic

PROJECT: Slieveacurry Renewable Energy Development

CLIENT: Slieveacurry Ltd.

PROJECT NO: 9101

DATE: 22.04.26

SCALE: 1:1000@A4

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 6 - Site Entrance

Proposed Use:

Construction stage - Abnormally sized loads, standard HGV deliveries & staff entrance

Operational stage - Maintenance staff

Area required for over-run during turbine delivery phase

Junction radii are 13m with 1:10 tapers for HGVs in accordance with TII DN-GEO-03060

Junction markings to be as per Figure 7.35 of the Traffic Signs Manual

- Centreline RM 001
- STOP line RRM 017
- STOP lettering M114.

Junction stop signs to be as per RUS 027 of the Traffic Signs Manual.

Wind Farm Access

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Base mapping provided by MKO

Figure 15-18 Location 6 - L6230 / wind farm access junction, junction layout

PROJECT: Slieveacurry Renewable Energy Development		
CLIENT: Slieveacurry Ltd.	SCALE: 1:1000 @ A3	
PROJECT NO: 9101	DATE: 22.04.26	DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 6 - Site Entrance

Proposed Use:

Construction stage - Abnormally sized loads, standard HGV deliveries & staff entrance

Operational stage - Maintenance staff

Area required for over-run during turbine delivery phase

Junction radii are 13m with 1:10 tapers for HGVs in accordance with TII DN-GEO-03060

Junction markings to be as per Figure 7.35 of the Traffic Signs Manual

- Centreline RM 001
- STOP line RRM 017
- STOP lettering M114.

Junction stop signs to be as per RUS 027 of the Traffic Signs Manual.

3.0m x 70m visibility splay

Wind Farm Access

3.0m x 70m visibility splay

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Base mapping provided by MKO

Figure 15-19a Location 6 - L6230 / wind farm access junction, junction layout with visibility splay (3.0m x 70m)

PROJECT: Slieveacurry Renewable Energy Development		SCALE: 1:1000 @ A3
CLIENT: Slieveacurry Ltd.		DRAWN BY: AL
PROJECT NO: 9101	DATE: 22.04.26	

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 6 - Site Entrance

Proposed Use:

Construction stage - Abnormally sized loads, standard HGV deliveries & staff entrance

Operational stage - Maintenance staff

Area required for over-run during turbine delivery phase

Junction radii are 13m with 1:10 tapers for HGVs in accordance with TII DN-GEO-03060

Junction markings to be as per Figure 7.35 of the Traffic Signs Manual

- Centreline RM 001
- STOP line RRM 017
- STOP lettering M114.

Junction stop signs to be as per RUS 027 of the Traffic Signs Manual.

3.0m x 90m visibility splay

Wind Farm Access

3.0m x 90m visibility splay

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Base mapping provided by MKO

Figure 15-19b Location 6 - L6230 / wind farm access junction, junction layout with visibility splay (3.0m x 90m)

PROJECT: Slieveacurry Renewable Energy Development		SCALE: 1:1000 @ A3
CLIENT: Slieveacurry Ltd.		
PROJECT NO: 9101	DATE: 22.04.26	DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 6 - Site Entrance

Proposed Use:

Construction stage - Abnormally sized loads, standard HGV deliveries & staff entrance

Operational stage - Maintenance staff

Area required for over-run during turbine delivery phase

Junction radii are 13m with 1:10 tapers for HGVs in accordance with TII DN-GEO-03060

Junction markings to be as per Figure 7.35 of the Traffic Signs Manual

- Centreline RM 001
- STOP line RRM 017
- STOP lettering M114.

Junction stop signs to be as per RUS 027 of the Traffic Signs Manual.

Wind Farm Access

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Base mapping provided by MKO

Figure 15-20 Location 6 - L6230 / wind farm access junction, blade extended artic

PROJECT: Slieveacurry Renewable Energy Development		SCALE: 1:1000 @ A3
CLIENT: Slieveacurry Ltd.		DRAWN BY: AL
PROJECT NO: 9101	DATE: 22.04.26	

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

Location 6 - Site Entrance

Proposed Use:

Construction stage - Abnormally sized loads, standard HGV deliveries & staff entrance

Operational stage - Maintenance staff

Area required for over-run during turbine delivery phase

Junction radii are 13m with 1:10 tapers for HGVs in accordance with TII DN-GEO-03060

Junction markings to be as per Figure 7.35 of the Traffic Signs Manual

- Centreline RM 001
- STOP line RRM 017
- STOP lettering M114.

Junction stop signs to be as per RUS 027 of the Traffic Signs Manual.

Wind Farm Access

NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Base mapping provided by MKO

Figure 15-21 Location 6 - L6230 / wind farm access junction, tower extended artic

PROJECT: Slieveacurry Renewable Energy Development		SCALE: 1:1000 @ A3
CLIENT: Slieveacurry Ltd.		DRAWN BY: AL
PROJECT NO: 9101	DATE: 22.04.26	

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

15.1.10 Road Safety Audit

Traffico Road Safety Engineering Consultants Ltd were commissioned to undertake a Stage 1 Road Safety Audit for the access junction for the Proposed Wind Farm Site, in accordance with GE-STY-01024 Road Safety Audit Guidelines, TII, December 2017. The Stage 1 Road Safety Audit Report is attached as Appendix 15-4 of this EIAR.

All Problems raised by the Audit Team are responded to by the Design Team, as documented in Appendix A, Road Safety Audit Feedback Form of the Stage 1 Road Safety Audit Report. It is noted that all responses are accepted by the Audit Team.

15.1.11 Provision for Sustainable Modes of Travel

15.1.11.1 Walking and Cycling

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

15.1.11.2 Public Transport

Based on the Regional Public Transport Map produced by Transport for Ireland (TFI) on August 1st, 2025, there are no public transport services that currently pass the site although mini-buses may be considered for transporting construction staff to and from the site in order to minimise traffic generation and parking demand on site.

15.1.12 Likely and Significant Effects and Associated Mitigation Measures

15.1.12.1 'Do Nothing' Scenario

If the Proposed Project were not to proceed, no changes would be made to the current land-use practice of forestry and the site would continue to be managed under the existing commercial forestry arrangements. There would also be no additional traffic generated or works carried out on the road network and therefore no effects with respect to traffic.

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

15.1.12.2 Construction Phase

For these 71 days an additional 204 PCUs will travel on the study network. On these days, the percentage increase in traffic volumes experienced on the study network will be between +1.6% on the N85 south of the Claureen Roundabout (Link 1) to +0.9% on the N85 to the west of the Roundabout (Link 2), to +2.7% on the N85 passing through Inagh (Link 3), to +5.5% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +49.9% on the L1074 approaching the

Proposed Wind Farm Site (Link 5). It is forecast that the direct effect will be negative, temporary and will be slight in terms of severity. **There will be no significant impacts.**

On average an additional 598 PCUs will travel on the local highway network during the 9 days concrete foundations are poured. This will result in a percentage increase in traffic volumes on the study network of between +4.6% on the N85 south of the Claureen Roundabout (Link 1) to +2.6% on the N85 to the west of the Claureen Roundabout (Link2), to +7.8% on the N85 passing through Inagh (Link 3), to +16.2% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +146.3% on the L1074 approaching the site (Link 5). It is forecast that the effects of this additional traffic will be negative, temporary and will be slight in terms of severity. **There will be no significant impacts.**

An additional 130 PCUs (made up of cars and large extended artics) will travel on the study network for 24 nights. On the nights this impact occurs, volumes will increase by between +1.0% on the N85 south of the Claureen Roundabout (Link 1) to +0.6% on the N85 to the west of the Claureen Roundabout (link 2), to +1.7 on the N85 passing through Inagh (Link 3), to +3.5% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +31.8% on the L1074 approaching the site (Link 5). It is forecast that the direct effect will be temporary and may be reduced to slight in terms of severity if the delivery of the large plant is done at night, as is proposed. **There will be no significant impacts.**

The most significant traffic impact may be experienced during these days primarily due to the slow speeds, size and geometric requirements of these vehicles. The provision of traffic management measures, including ensuring that these deliveries are made at night (as set out in Sections 15.1.8 and 15.1.12.2 and included in the CEMP), will be required to minimise the impact of development traffic on the study network on these days. It is forecast that the direct effect will be negative, temporary and will be slight in terms of severity. **There will be no significant impacts.**

An additional 64 PCUs will travel on the study network for 9 days. On these days traffic volumes will increase by between +0.5% on the N85 south of the Claureen Roundabout (Link 1), +0.3% on the N85 to the west of the Claureen Roundabout (Link 2), to +0.8 on the N85 passing through Inagh (link 3), to +1.7% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +15.7% on the L1074 approaching the site (Link 5). It is forecast that the direct effect will be negative, temporary and will be slight in terms of severity. **There will be no significant impacts.**

For a total of 270 days when general construction only takes place on the site an additional 91 PCUs will travel on the study network. On these days, the percentage increase on the study network will be between +0.7% on the N85 south of the Claureen Roundabout (Link 1), +0.4% on the N85 to the west of the Claureen Roundabout (Link 2), to +1.2 on the N85 passing through Inagh (Link 3), to +2.5% on the R460 to the west of Inagh (Link 4). On these days traffic flows are forecast to increase by +22.3% on the L1074 approaching the site (Link 5). It is forecast that the direct effect will be negative, temporary and will be slight in terms of severity. **There will be no significant impacts.**

While deliveries on the short section of the L-6230 from the junction with the L-1076 to the Proposed Wind Farm Site access (300m) will be managed in order that 2 HGVs do not meet, it is likely that the Traffic Management Plan will require HGVs leaving the Proposed Wind Farm Site on the busiest construction days (i.e. the 9 days when the concrete foundations are poured) to return to their plant via a short detour through Miltown Malbay followed by either the R460 back to Inagh, or the R474 to Ennis, and therefore avoid HGV movements travelling to and from the Proposed Wind Farm Site meeting each other. While there are informal passing locations on the L-1074 the applicant will discuss any opportunities for providing formal passing locations on the route with the Road Section of Clare County Council. This is discussed further in the TMP included as Appendix 15-2.

15.1.12.2.1 **Proposed Grid Connection Site**

With respect to the traffic volumes that will be generated during the construction of sections of underground cabling along the public road within the Proposed Grid Connection Site, it is estimated

that there will be approximately 15 daily return trips made by a truck transporting materials, and 8 return trips made by a car to transport construction staff, to and from the Proposed Grid Connection Site. A “Stop-and Go” traffic management system Traffic on the R460 will therefore experience minor delays on this section of the R460 for approximately 8 days., as discussed in Section 15.1.8 of this EIAR, although the traffic volumes that will be impacted on the local road network are low. Therefore, by its nature the effects of these additional trips and diversions on the network will be transient, will be temporary and will be slight.

15.1.12.3 **Operational Phase**

The impacts on the surrounding local road network will be negligible given that there will only be an average of approximately 1 to 2 trips made to the Proposed Wind Farm Site by car or light goods vehicle per day, with no regular visits required to the Proposed Grid Connection Site. The effects of the maintenance traffic on the surrounding highway network will therefore be imperceptible, negative and long term.

15.1.12.4 **Decommissioning Phase**

The Proposed Turbines are expected to have a lifespan of approximately 35 years. Following the end of their useful life, the Proposed Turbines may be replaced with new turbines, subject to planning permission being obtained, or may be decommissioned fully.

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

Following decommissioning of the Proposed Project, turbine foundations will be rehabilitated, i.e. left in place, covered over with local soil/subsoil and allowed to re-vegetate naturally, if required. The internal site access tracks may be left in place, as they will serve as useful access to the agricultural and forestry land. It is considered that leaving these areas in-situ will cause less environmental damage than removing and recycling them.

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

The proposed substation extension will remain in place as it will remain under the management and operation of ESBN. There are no impacts associated with this.

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

15.1.12.5 **Mitigation Measures**

This section summarises the mitigation measures to minimise the effects of the Proposed Project during both the construction and operational stages (decommissioning will be same as construction where required).

15.1.12.5.1 **Mitigation by Design**

Mitigation by design measures include the following:

- Selection of the most appropriate delivery route to transport the wind turbine components, requiring the minimum remedial works to accommodate the vehicles as set out in Section 15.1.2.2.
- Selection of the shortest Proposed Grid Connection Site diversion routes, minimising the impacts on the existing road network and traffic.
- Use of on-site borrow pit to produce materials to minimise deliveries to site during construction.

15.1.12.5.2 **Mitigation Measures During the Construction Phase**

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

Delivery of abnormal sized loads

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

- The delivery of turbine components is a specialist transport operation with the transportation of components carried out at night when traffic is at its lightest and the impact minimised.
- The deliveries will be made in consultation with the Local Authority and An Garda Síochána.
- It is estimated that 72 abnormal sized loads will be delivered to the Site, comprising 24 convoys of 3 vehicles, undertaken over 24 separate nights.
- These nights will be spread out over an approximate period of 5 weeks and will be agreed in advance with the relevant authorities
- In order to manage each of the travelling convoys, for each there will be two Garda escort vehicles that will stop traffic when required at the front and rear of the convoy of 3 vehicles.
- There will also be two escort vehicles provided by the haulage company for each convoy.

Other traffic management measures

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

- **Traffic Management Coordinator** – a competent Traffic Management Co-ordinator will be appointed for the duration of the development, and this person will be the main point of contact for all matters relating to traffic management.
- **Delivery Programme** – a programme of deliveries will be submitted to Clare County Council in advance of deliveries of turbine components to the Site. Liaison with the relevant local authorities, TII and MMarC and will be carried out where required regarding requirements such as delivery timetabling. The programme will ensure that deliveries are scheduled in order to minimise the demand on the local network and minimise the pressure on the access to the Site.
- **Information to locals** – Locals in the area will be informed of any upcoming traffic related matters e.g. temporary lane/road closures (where required) or delivery of turbine components at night, via letter drops and posters in public places. Information will include the contact details of the Project Co-ordinator, who will be

the main point of contact for all queries from the public or local authority during normal working hours. An "out of hours" emergency number will also be provided.

- **A Pre and Post Construction Condition Survey** – Where required by the local authority, a pre-condition survey of roads associated with the Proposed Project can be carried out immediately prior to construction commencement to record an accurate condition of the road at the time. A post construction survey will be carried out after works are completed to ensure that any remediation works are carried out to a satisfactory standard. Where required the timing of these surveys will be agreed with the local authority. All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.
- **Diversion routes during underground cabling construction** – The identification and agreement with suitable diversion routes during the construction of the proposed 33kV underground cabling.
- **Liaison with the relevant local authority** - Liaison with Clare County Council and An Garda Síochána, will be carried out during the delivery phase of the large turbine vehicles, when an escort for all convoys will be required. Once the surveys have been carried out and “prior to commencement” status of the relevant roads established, (in compliance with the provisions of the CEMP), the Roads section will be informed of the relevant names and contact numbers for the Project Developer/Contractor Site Manager as well as the Site Environmental Manager.
- **Implementation of temporary alterations to road network at critical junctions** – at locations highlighted in Section 15.1.9. In addition, in order to minimise the impact on the existing environment during turbine component deliveries the option of blade adaptor trailers will also be used where deemed practicable.
- **Identification of delivery routes** – These routes will be agreed with Clare County Council and adhered to by all contractors.
- **Delivery times of large turbine components** - The TMP will include the option to deliver the large wind turbine plant components at night in order to minimise disruption to general traffic during the construction stage.
- **Travel plan for construction workers** – While the assessment above has assumed the worst case in that construction workers will drive to the Site, the construction company will be required to provide a travel plan for construction staff, which will include the identification of routes to / from the Site and identification of an area for parking.
- **Additional measures** - Various additional measures will be put in place in order to minimise the effects of the development traffic on the surrounding road network including wheel washing facilities on site and sweeping / cleaning of local roads as required. These are set out in the CEMP which is contained in Appendix 4-5.
- **Re-instatement works** - All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.
- **One-way delivery systems** (concrete pour days) - HGVs leaving the site on the busiest construction days (i.e. the 9 days when the concrete foundations are poured) to return to their plant via a short detour

15.1.12.5.3 **Mitigation Measures During Operational Stage**

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

15.1.12.5.4 **Mitigation Measures During Decommissioning Stage**

In the event that the Proposed Project is decommissioned after the 35 years of operation, a decommissioning plan, will be prepared for agreement with the local authority, as described in Chapter 4; ‘Description of the Proposed Project’ and Appendix 4-6 Decommissioning Plan. This plan will include a material recycling / disposal and traffic management plan will be prepared for agreement with the local authority prior to decommissioning, in accordance with Scottish Natural Heritage report

(SNH) *Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms* (SNH, 2013).

15.1.12.6 Residual Effects

15.1.12.6.1 Construction Stage

During the 18 month construction stage of the Proposed Project, it is forecasted that the additional traffic that will travel on the public road network serving the Proposed Wind Farm Site and during the construction of the Proposed Grid Connection Site 33kV underground cabling will have a slight, short-term negative effect on existing road users, which will be minimised with the implementation of the mitigation measures included in the proposed Traffic Management Plan (TMP) included as Appendix 15-2. There will be no significant impacts.

15.1.12.6.2 Operational Stage

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

15.1.12.6.3 Decommissioning Stage

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

15.1.12.7 Cumulative Effects

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

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

An assessment of all existing, permitted, and proposed projects were assessed for the potential for cumulative traffic and transport effects with the Proposed Project based on the following criteria;

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

A detailed list of all developments at varying stages in the development process (from pre-planning to operational), is set out in Appendix 2-3 of this EIAR. The developments included in the cumulative impact assessment are considered under the following groups;

- Other wind farms,
- Other general applications.
- Strategic Infrastructure Development (SID) applications made to An Coimisiún Pleanála.

15.1.12.7.1 Other Wind Farms

The other existing, permitted and proposed wind farm developments within the geographical boundary as outlined in Section 2.9 of Chapter 2; ‘Background to the Proposed Project’ that were considered to have potential traffic related cumulative impacts are set out below in Table 15-29. In total, there are 5 wind farm developments listed, with 4 considered to have little overlap with their TDR and general construction delivery routes for the Proposed Project. It is noted that 2 separate applications for wind farms, Cahermurphy II Wind Farm (10 turbines) and Cahermurphy West (8 turbines) are currently proposed. For the purposes of the cumulative assessment, the proposed Cahermurphy II Wind Farm has been adopted as the assessed scenario, as it comprises a greater number of turbines (10 no.), and therefore represents a reasonable worst-case in terms of potential cumulative effects. As such, the proposed Cahermurphy II Wind Farm forms the basis of the cumulative assessment. For the proposed Illaunbaun Wind Farm (6 turbines) located off the L1076 to the north of the Site there will be a high degree of overlap between the TDR and delivery routes with the Proposed Project. It is therefore proposed that the construction programs for these 2 wind farms do not occur concurrently. In the event that the construction of both developments occur at the same time it is considered that the cumulative impacts will be negative, temporary and slight. There will be no significant impacts.

It is noted that as operational wind farm sites generate very low volumes of traffic there will be no cumulative impacts with existing wind farms.

Table 15-29 Summary of other wind farms considered in cumulative assessment and risk for cumulative impacts

No.	Project	Status	Degree of overlap of highway network (none/ low / medium / high)	Traffic volumes (low / medium / high)	Potential cumulative traffic effects
1	Ballykett Wind Farm (4 turbines)	Permitted	Low	Low	Low
2	Cahermurphy II Wind Farm (10 turbines)	Proposed	Low	Medium	Low
3	Cloonkett Wind Farm (14 turbines)	Proposed	Low	Medium	Low
4	Illaunbaun Wind Farm (6 turbines) ¹	Proposed	High	Medium	Medium

Other development applications in the planning system

A planning search undertaken by MKO established a number of non-wind energy developments with the potential to give rise to cumulative effects in conjunction with the Proposed Project. All of these developments are set out in the cumulative assessment table included as Appendix 2-2. Of these developments, all applications relating to small developments including single dwellings were excluded from the assessment on the basis of scale. In addition, all of the larger scale developments identified in the search are not anticipated to have overlapping construction phases, with most developments either being operational, or expected to be operational when the Proposed Project begins construction.

¹ *It is noted that the proposed Illaunbaun Wind Farm comprises 2 no. separate applications comprising a 5 no. turbine wind farm and a singular turbine. However, for the purposes of this EIAR these will be assessed as one 6 no. turbine wind farm.

15.2 Telecommunications and Aviation

15.2.1 Introduction

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

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

Section 15.2.3 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 prepared by Brandon Taylor with input from Ciarán Fitzgerald and reviewed by and Órla Murphy of MKO.

Brandon Taylor is a Project Environmental Scientist with over three years of private consultancy experience. Brandon holds a B.Sc (Hons) in Geography from McGill University, and a MSc (Hons) in Coastal & Marine Environments from the University of Galway. Brandon's key skills include scientific research and report writing, particularly in the context of local communities and their interactions with environmental stressors, and geospatial analysis and the application of GIS and remote sensing tools across the fields of renewable energy development, coastal zone management, and education and scientific communication. Since joining MKO, Brandon has been involved in the design and environmental impact assessment (EIA) of multiple large-scale onshore wind energy developments across Ireland, contributing to and managing the production of EIA reports.

Ciarán Fitzgerald is an Environmental Scientist who has been working with MKO since June 2024. Ciarán holds a B.Sc. (Honours) in Marine Science from the National University of Ireland Galway and a First-Class Honours PG. Dip in Geographic Information Systems from University College Cork. Ciarán works as part of the Environmental Renewables team as well as a larger multidisciplinary team. Ciarán's role involves undertaking tasks such as report writing, EIAR chapter writing, and QGIS mapping. Prior to joining MKO, Ciarán spent time aboard the research vessel "Celtic Explorer," working as part of a team undertaking chemical water data, pelagic species abundance and sorting, bathymetric GIS mapping, data collection, and report writing. Ciarán's key strengths lie in GIS mapping and communication. Since joining the company, Ciarán has been involved in a range of projects, including onshore wind, offshore wind, and solar, contributing by reviewing EIAR chapters and assisting with project development. Ciarán holds a membership from the Institute of Sustainability and Environmental Professionals (ISEP).

Órla holds BSc (Hons) in Geography from Queens University Belfast & a MSc in Environmental Protection and Management from the University of Edinburgh. Prior to taking up her position with McCarthy Keville O'Sullivan in January 2018, Órla worked as an Environmental Project Assistant with ITP Energised in Scotland. Órla's key strengths and areas of expertise are in Environmental Protection and Management, EIA, Project Management, Renewable Energy and Peatland Management, where she has carried out research projects and site work relating to restoration and management of peatland sites in both Scotland and Northern Ireland. On joining MKO Órla has been involved on a range of renewable energy infrastructure projects. In her role as a project manager, Órla 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. Within MKO, Órla plays a 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 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)², 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 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 with the telecommunications operators and aviation bodies was initially carried out in 2020 as part of a previous application within the Site (see Chapter 2: Background Section 2.6.1). This was further built upon through re-consultation of historic and new telecommunications operators and aviation bodies in the area in November 2024, as detailed above. Consultation with existing and new operators and aviation bodies informed the constraints mapping process, as described in Chapter 3: Site Selection & Reasonable Alternatives, Section 3.2.5 of the EIAR.

The assessment of likely significant effects on material assets uses the standard methodology and classification of impacts as presented in Section 1.8.2 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 mended by Directive 2014/52/EU and having regard, where relevant, to guidance and policy documents listed below:

- Clare County Development Plan 2023-2029³
- Guidelines on the Information to be contained in Environmental Impact Assessment Reports’ (EPA, 2022)⁴
- Draft Air Corps Wind Farm/Tall Structures Position Paper (August 2014)⁵
- Department of Environment, Heritage and Local Government (2006) Wind Energy Development Guidelines for Planning Authorities the ‘Guidelines’⁶
- Department of the Environment, Heritage and Local Government (2019) Draft Revised Wind Energy Development Guidelines for Planning Authorities the ‘Draft Guidelines’⁷
- Irish Wind Energy Association (2012) Best Practice Guidelines for the Irish Wind Energy Industry⁸

² <https://windenergyireland.com/images/files/9660bdfb5a4f1d276f41ae9ab54e991bb600b7.pdf>

³ <https://www.clarecoco.ie/planning-and-building/development-plans-and-local-area-plans/clare-county-development-plan-2023-2029>

⁴ https://www.epa.ie/publications/monitoring-assessment/assessment/EIAR_Guidelines_2022_Web.pdf

⁵ <https://www.pleanala.ie/publicaccess/EIAR-NIS/311565/4.%20EIAR%20Volume%20II/Annex%2013.2%20-%20Air%20Corps%20Position%20Paper.pdf>

⁶ <https://assets.gov.ie/static/documents/wind-energy-development-guidelines-2006.pdf>

⁷ <https://assets.gov.ie/static/documents/draft-revised-wind-energy-development-guidelines-december-2019-385c92c2-16f9-4511-80bf.pdf>

⁸ <https://windenergyireland.com/images/files/9660bdfb5a4f1d276f41ae9ab54e991bb600b7.pdf>

- ESB Networks (2019) Code of Practice for Avoiding Danger from Overhead Electricity Lines.⁹
- ESB (2017) EMF & You: Information about Electric & Magnetic Fields and the electricity network in Ireland¹⁰
- Irish Rail (2018) CCE Department Technical Guidance Document CCE-TMS-310 Guidance on Third Party Works¹¹
- Irish Rail (2009) CCE Departmental and Multidisciplinary Standard I-DEP-0121 Third Party Works: Additional Details of Railway Safety Requirements¹².

15.2.3 Background

15.2.3.1 Broadcast Communications

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

15.2.3.2 Domestic Receivers

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

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

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

15.2.3.3 Other Signal Types

Wind turbines have the potential to affect other signal types used for communication and navigational systems, for example tower-to-tower microwave communication links, and airborne and ground radar systems. Interference with radar systems occurs when wind turbines are located close to an airport or directly in line with the instrument landing approach. The nearest operational large international airport is Shannon Airport located approx. 31km southeast of the Proposed Wind Farm Site.

The airport listed above is outside the range at which such issues would be expected, and as detailed in Table 15-30 below, the Irish Aviation Authority noted no issues with the Proposed Project however they issued observations as discussed in Section 15.2.5.3.2.

⁹ <https://www.esbnetworks.ie/docs/default-source/publications/code-of-practice-for-avoiding-danger-from-overhead-electricity-lines.pdf>

¹⁰ https://www.esbnetworks.ie/docs/default-source/publications/esb-networks-electrical-and-magnetic-fields-pdf?sfvrsn=43304888_13

¹¹ <https://www.irishrail.ie/en-ie>

¹² <https://www.irishrail.ie/en-ie>

15.2.3.4 Preventing Electromagnetic Interference

Both the adopted ‘*Wind Energy Development Guidelines for Planning Authorities*’ produced by the Department of the Environment, Heritage and Local Government in 2006¹³ (hereafter referred to as the ‘Guidelines’ (DoEHLG, 2006)) and the *Draft Wind Energy Development Guidelines*’ (December 2019) (hereafter referred to as 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 15-30; full details are provided in Section 2.7 in Chapter 2; Background to the Proposed Project of this EIAR.

15.2.3.4.1 **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 15-1 reproduced from the 2017 Electricity Supply Board (ESB) information booklet which demonstrates the alternating magnetic field of AC overhead lines and underground cables. As can be seen in Figure 15-1 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 μ T to 0.5 μ T at 10m away from the cable, reducing to almost 0 μ T at 20m. There is no 110kV cabling included in the Proposed Project, only 33kV internal cabling.

¹³ <https://assets.gov.ie/static/documents/wind-energy-development-guidelines-2006.pdf>

Figure 15-7 Illustrates the magnetic field from overhead AC lines operating in Ireland

THE EFFECT OF DISTANCE ON MAGNETIC FIELDS

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

AC LINES AND CABLES

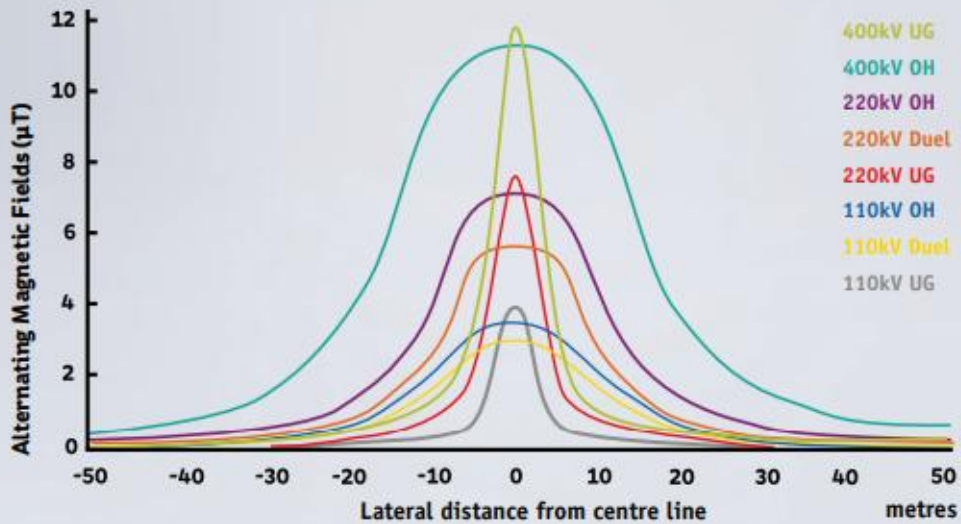


Figure C illustrates the magnetic field from overhead AC lines operating in Ireland. The field strength decreases with distance. The fields from these AC lines are far below the 1998 ICNIRP Guidelines for exposure to AC magnetic fields (100µT). In 2010 ICNIRP updated its ELF-EMF guidelines, which included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

15.2.3.5 Aviation

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

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

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

- Lands underlying military airspace used for flying activity, including designated Military Operation Areas (MOA)
- Areas wherein military flying occurs at low levels
- 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 15-1; full details are provided in Section 2.7 in Chapter 2: Background to the Proposed Project of this EIAR.

15.2.4 Scoping and Consultation with Telecommunications and Aviation Operators

As part of the EIAR scoping and consultation, MKO contacted the relevant national and regional broadcasters, fixed and mobile operators, aviation authorities in November 2024 and other relevant consultees were contacted in in January 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 15-30.

A full description of the scoping and consultation exercise (telecommunications and aviation) is provided in Section 2.7 of Chapter 2; Background to the Proposed Project.

Table 15-30 Telecommunications and aviation Scoping Responses

Consultee	Scoping Response	Potential for Interference Following Consultation Exercise
Broadcasting Authority of Ireland (BAI)	07/11/2024	No
Cellnex	04/12/2024	N/A

Consultee	Scoping Response	Potential for Interference Following Consultation Exercise
Córas Iompair Éireann (CIE)	12/11/2024	Yes, see Section 15.2.4.3 below
Eir	12/11/2024	No
ESB	20/12/2024	No
Enet	07/11/2024	No
EOBO	No Response	No
Fastcom Broadband Ltd	No Response	N/A
Hibernian Towers	No Response	No
Imagine Networks	07/11/2024	No
Iarnród Éireann	29/01/2025	No
Irish Water	12/03/2025	N/A
Ivertec Ltd	18/11/2024	No
JFK Communications	18/11/2024	No
JS Whizzy Internet Limited	07/11/2024	No
Lackabeha Services Ltd T/A Airwaves Internet	07/11/2024	No
Meteor Mobile Communications Limited	07/11/2024	No
NBI Infrastructure DAC	04/11/2024	No
RTE/Saorview	07/11/2024	No
TETRA Ireland	No Response	N/A
Irish Aviation Authority (IAA)	29/01/2025	Yes, see Section 15.2.4.3 below
Three Ireland Ltd	04/12/2024	No
Towercom	27/11/2024	No
Viatel Ireland Ltd	07/11/2024	N/A
Virgin Media Ltd	04/12/2024	No
Vodafone Ireland Ltd	04/12/2024	Yes, see Section 15.2.4.2 below
Western Broadband Network	07/11/2024	No
RTE Transmission Network (2rn)	08/11/2024	Yes, see Section 15.2.4.1 below

The scoping responses from the telecommunications and aviation consultees are described below. Relevant copies of scoping responses are provided in Appendix 2-1. The locations of identified telecoms links and setbacks requested by providers is shown in Figure 15-23 below.

15.2.4.1 Broadcasters

Of the scoping responses received from broadcasters, those who highlighted an initial potential interference risk are summarised below.

RTE/2rn

RTÉ Transmission Network (2rn), replied on the 8th November 2024 to a scoping request from MKO stating that have no fixed links within the Site however 2rn stated that there is a high risk of interference to broadcast services from the area to the southwest of the Proposed Project.

2rn requested “*that a protocol be signed between 2rn and the developer and recommend that a coverage survey be carried out before and after the site construction.*”.

Therefore, a standard Protocol Document has been prepared by 2rn for the Proposed Project which has been signed by Slieveacurry Ltd (the Applicant). A copy of the Protocol Document is presented in Appendix 15-5 of this EIAR. The Protocol Document ensures that in the event of any interference occurring to RTÉ television or radio reception due to operation of a wind farm, the required measures as set out in the Protocol Document, will be carried out by the developer to rectify this. The Protocol Document ensures that the appropriate mitigation is carried out in the event of any unanticipated broadcast interference arising to RTÉ television or radio reception as a result of the Proposed Project.

15.2.4.2 Other Consultees

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

CIE

CIE responded to a scoping request from MKO on the 12th November 2024 and noted that the Proposed Wind Farm Site GSM-R (Mobile Network for Railways) coordination zone and provided the following recommendations:

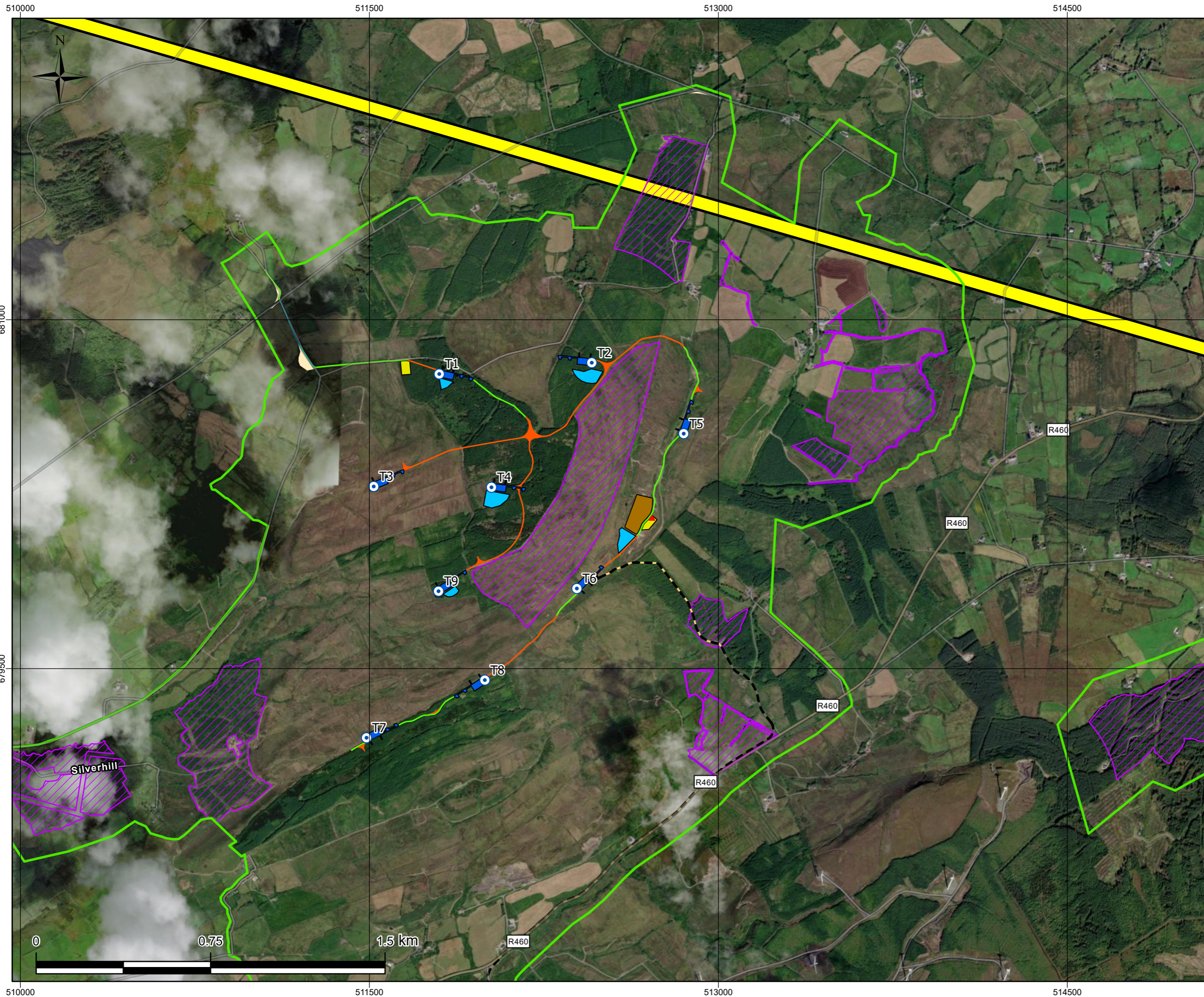
1. **Exclusion zone:** wind farm not less than 5km from antenna
2. **Coordination zone:** 5km < wind farm <30km: this area, between operators is required to fix any issue and impact on the signal propagation

The nearest railway line is approx. 16km east of Proposed Wind Farm Site and therefore there is no potential for interaction between the Proposed Project and the GSM-R network. Further detail regarding interactions with the railway network are detailed in Section 15.3.3.2.2 below.

Vodafone

Vodafone responded to a telecom scoping request from MKO on the 4th of December 2024, noting that they did not have any transmissions within the Proposed Wind Farm Site, however there is one link that passes through the Proposed Enhancement Site.

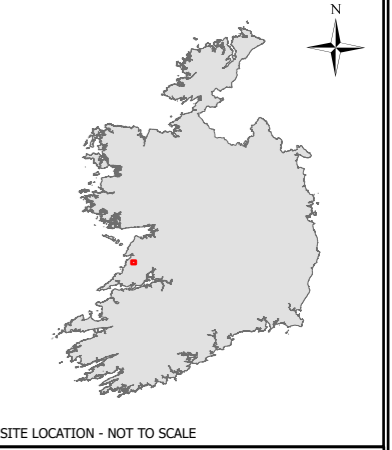
Vodafone requested that a clearance of 30m from the first Fresnel zone is desired and therefore no interference with this link is anticipated.



Map Legend

- EIA Site Boundary
- Proposed Turbines
- Proposed Turbine Hardstands
- Proposed 33kV Underground Cable Connection
- Existing Roads to be Upgraded
- Proposed New Roads
- Public Road to be Upgraded
- Public Road to be Maintained
- Proposed Temporary Construction Compound
- Proposed Borrow Pit
- Proposed Met Mast
- Proposed Peat and Spoil Management Areas
- Proposed Access Track
- Turbine Delivery Overrun Areas
- Proposed Biodiversity Enhancement Areas
- Vodafone Fresnel Zone

Spatial Reference
 Name: IRENET95 Irish Transverse Mercator
 Datum: IRENET95
 Projection: Transverse Mercator



Telecoms Link		
Project Title		
Slieveacurry Renewable Energy Development Co. Clare		
Project No.	Drawing No.	Scale
240718	5-23	1:15,000
Drawn By	Checked By	Date
MVN	BT	30/04/2026

Email: info@mkofireland.ie / Website: www.mkofireland.ie

15.2.4.3 Aviation

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

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

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

Department of Defence

The Draft Air Corps Wind Farm/Tall Structures Position Paper (August 2014) sets out the Air Corps position on the appropriate siting and management of wind farms and tall structures. The 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).

A scoping response was received from the DoD on the 20th of February 2025 which notes the DoD does not provide observations or advice in the scoping process except where the relevant parties have been directed by a planning authority to seek the Department's views, but does provide the following observations:

1. The Minister for Defence is responsible for the regulation of military aviation, whereas the Irish Aviation Authority (IAA) is responsible for the safety regulation of civil aviation including aerodromes. The IAA does not have remit for military aviation or installations. Safeguarding of military flight operations and installations is intended to protect both current and future aircraft operations and also to take account of the security requirements associated with some of those operations
2. 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.

Irish Aviation Authority

As part of MKO consultation process as shown in Section 2.7 of Chapter 2: Background to the Proposed Project, a Scoping Document was prepared and circulated to relevant consultees in January 2025, which included the IAA.

The IAA responded to the Scoping Document on 29th January 2025, noting 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.”*

Shannon Airport

Shannon Airport responded to a scoping request from MKO on the 2nd of March 2025 noting they had previously conducted a technical assessment on of potential effects of the previous 8 no. turbine application within the Site (see Chapter 2 Background of the Proposed Project, Section 2.6.1) and confirmed this development would not have any effect of operations at Shannon Airport. They note the Proposed Project may have implications for the operations of the communication, navigation and surveillance systems used by Air Traffic Control for the separation and safety of aircraft. The geographical siting of these turbines may also have implications for the flight paths of aircraft. As such Shannon Airport requested GPS coordinates for the Proposed Turbines, and notes further the following observations:

- Regard must be had by the applicant to the Irish Aviation Authority (IAA) *Obstacles to Aircraft in Flight Order, 2005 (S.I. No. 215 of 2005)*, as amended, which specifies the criteria used to determine whether any object anywhere in the State is deemed to be an obstacle affecting aircraft operations. Also, in order to assure the safety and efficiency of aircraft operations in the vicinity of airports, the International Civil Aviation Organisation (ICAO) has defined a volume of air space above which new objects are not permitted to interfere.
- The applicant should engage with the Air Nav Ireland to assess the impact of the development on flight procedures and communication, navigation and surveillance equipment as well as any potential impacts on en-route communications, navigation and surveillance equipment.
- Shannon Airport Authority DAC has specific responsibility to define the airspace around its aerodrome which must be maintained free from obstacles to permit the intended aircraft operations at the aerodrome to be conducted safely and to prevent the aerodrome from becoming unusable by the growth of obstacles around it. This is achieved by establishing a series of obstacle limitation surfaces (OLS) that define the limits to which objects (temporary or permanent) may project into the airspace. These surfaces may extend many kilometres outwards from the active runway strip at the aerodrome.
- In the event that the application was to be successful details around the use of cranes in the construction of the turbines (i.e. geographical location, max. working height, dates and duration of operation) will need to be provided to the airport authority at least 30 days in advance of works starting on the turbine construction.
- The developer must apply the following standard: *Chapter Q (Visual Aids for Denoting Obstacles)* of the Certification Specifications contained within the *EASA Easy Access Rules for Aerodromes (current version – Dec'24) CS ADR-DSN.Q.851 Marking and Lighting of wind turbines* (Regulation (EU) No. 139/2014) for this proposed wind turbine project.

Following receipt of the coordinates for the Proposed Turbines, Shannon Airport are not impacting on our safeguarding boundary OLS and are in the region of 20km from the perimeter of that boundary.

Air Nav Ireland

As part of MKO consultation process as shown in Section 2.7 of Chapter 2: Background to the Proposed Project, a Scoping Document was prepared and circulated to relevant consultees in January 2025, which included Air Nav Ireland.

Following consultation with Shannon Airport, a follow up was issued to Air Nav Ireland in February 2026 and response received on 17th of February 2026.

The response received from AirNav Ireland confirmed that the location and the construction of the Proposed Turbines will have no impact on the following areas:

- Instrument Flight Procedures serving Shannon Airport,
- Communications and Navigation Systems
- Surveillance (Radar)

A letter confirming the above was also issued on the 24th of February 2026, and is included in Appendix 2-1.

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.

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

15.2.5.2 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. Potential impacts during turbine erection (on aviation) and commissioning are assessed in the operational phase impact assessment.

15.2.5.3 Operational Phase

15.2.5.3.1 Telecommunications

Pre-Mitigation Effect

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, which confirmed that no turbines are proposed within the areas requested to be left clear of turbines. There are no EMF issues, based on the grid capacity as noted above in Section 15.2.3.4.1. The Proposed Project will have a long-term, imperceptible, negative impact on telecommunications.

Mitigation Measures

In the event of interference occurring to telecommunications, the Guidelines acknowledge that *'electromagnetic interference can be overcome'* by the use of diverter relay links out of line with the wind farm.

A signed protocol agreement between 2rn and the applicant can be found in Appendix 15-5. The protocol document ensures that in the event of any interference occurring to television or radio reception due to operation of the wind farm, the required measures, as set out in the document, will be carried out by the applicant to rectify this. The protocol document ensures that the appropriate mitigation is carried out in the event of unanticipated broadcast interference arising to television or radio reception as a result of the Proposed Wind Farm Site.

Residual Effect

The Proposed Project will have a long-term, imperceptible, negative impact on the telecommunications signals of any operator, due to distance from or absence of any links in the area. In addition, a protocol agreement, ensuring no impacts on broadcast signals, has been signed between 2rn and the applicant, please see Appendix 15-5.

Significance of Effect

The effect on telecommunications from the Proposed Project during the operational phase is considered Not Significant.

15.2.5.3.2 **Aviation**

Pre-Mitigation Effect

Following consultation with DoD, IAA, Shannon Airport and Air Nav Ireland, no potential effects on aviation were identified.

Mitigation Measures

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

Irish Aviation Authority

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

Department of Defence

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 an imperceptible residual effect on aviation as all lighting requirements will be met by the applicant.

Significance of Effects

There will be no significant effects on aviation operations as a result the Proposed Project.

15.2.5.4 Decommissioning Phase

As stated in Section 15.2.5.3 above, the potential for electromagnetic interference from wind turbines occurs only during the operational phase of the Proposed Project. There is no electromagnetic interference impacts associated with the construction or decommissioning phases of the Proposed Project, and therefore no mitigation 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. It is on this basis that it can be concluded that there would be a long-term imperceptible cumulative impact from the Proposed Project and other developments in the area.

As outlined above in Section 15.2.5.3, the Proposed Project will have no residual effect on telecommunications and aviation (as 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; Background to the Proposed Project, of the EIAR. Scoping was undertaken in line with Section 3.3 ‘Scoping’ of EPA, 2022¹⁴ 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 Proposed Project, scoping requests were made to EirGrid, Uisce Éireann, Irish Rail, GNI, Department of the Environment, Climate and Communications (DECC), ESB and numerous sections of Clare County Council, including the Roads Department and Environment Department. 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 or the DECC. A scoping response was received from Uisce Éireann and Waterways Ireland identifying that there is no relevant infrastructure within the Proposed Wind Farm Site. 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 (Background to the Proposed Project) of this EIAR.

15.3.2.1 Utilities

Uisce Éireann

A scoping request was sent to Uisce Eireann (UE) in January 2025. A response was received on the 3rd of March 2025. The Scoping response noted that they operate a water abstraction point at Lough Doo approx. 6km south of the Site, but potential for interaction is low.

It should be noted that the Proposed Project does not intend to connect into Uisce Eireann assets. The scoping response did not provide details in relation to specific water services within the Site.

UE also outlined several items regarding considerations to be made for potential hydrological and hydrogeological pathways to any abstraction points, which are addressed in Chapter 9 Hydrology and Hydrogeology of this EIAR, however the following observations regarding UE services are also made:

¹⁴ EPA, 2022. Guidelines on the information to be contained in Environmental Impact Assessment Reports. Available at: https://www.epa.ie/publications/monitoring-assessment/assessment/EIAR_Guidelines_2022_Web.pdf

- Impacts of the development on the capacity of water services (*i.e. do existing water services have the capacity to cater for the new development*). This is confirmed by Uisce Éireann in the form of a Confirmation of Feasibility (COF). If a development requires a connection to either a public water supply or sewage collection system, the developer is advised to submit a Pre-Connection Enquiry (PCE) enquiry to Uisce Éireann to determine the feasibility of connection to the Uisce Éireann network. The PCE should be submitted to Uisce Éireann well in advance of lodging your application. Lodging a COF with your planning application helps avoid delays in the consenting process.
- The applicant shall identify any upgrading of water & wastewater services infrastructure that would be required to accommodate the proposed development.
- In relation to a development that would discharge trade effluent – any upstream treatment or attenuation of discharges required prior to discharging to an Uisce Éireann collection network.
- In relation to the management of surface water; the potential impact of surface water discharges to combined sewer networks and potential measures to stop surface waters from combined sewers. Uisce Éireann does not permit surface waters into sewer network.
- Any physical impact on Uisce Éireann assets – reservoir, drinking water source, treatment works, pipes, pumping stations, discharges outfalls etc. including any relocation of assets.
- When considering a development proposal, the applicant is advised to determine the location of public water services assets, possible connection points from the applicant's site / lands to the public network and any drinking water abstraction catchments to ensure these are included and fully assessed in any pre-planning proposals.
- Where a development proposes to connect to an Uisce Éireann network and that network either abstracts water from or discharges wastewater to a “protected”/sensitive area, consideration as to whether the integrity of the site / conservation objectives of the site would be compromised should be identified within the report Uisce Éireann does not permit build over of its assets. Separation distances from public infrastructure, as per Uisce Éireann's Standards, Codes and Practices must be achieved. It is the applicant's responsibility to submit a diversion enquiry to Uisce Éireann Diversions Section (diversions@water.ie) prior to construction, where a potential build over of public assets is in question and/or where the applicants' proposals cannot achieve separation distances from public infrastructure as per Uisce Éireann Standards & Codes of Practice. As an applicant you are required to;
 - survey the site to determine the exact location of the public assets. Any trial investigations should be carried out with the agreement and in the presence of Uisce Éireann. All queries relating to in situ public infrastructure should be directed to diversions@water.ie
 - Provide evidence of separation distances between the existing Uisce Éireann assets and proposed structures, other services, trees, etc. have to be in accordance with Uisce Éireann Standards & Codes of Practice
- Where an existing connection is on place, the applicant or developer may be required to enter into a new or revised water and/or wastewater connection agreement(s) with Uisce Éireann prior to the commencement of this development.
- Where new connection(s) are sought, the applicant shall enter into water and/or wastewater connection agreement(s) with Uisce Éireann prior to the commencement of this development.

Further correspondence with Uisce Éireann in April 2026, identified two private watermains (both of which are within the public road network) within the EIAR Site boundary. The closest proposed works is Proposed Enhancement Site, Area B which is approximately 20m from an existing private watermain.

No effects on the existing private watermains is anticipated as no works are proposed for the Proposed Enhancement Site, Area B within the public road network.

Waterways Ireland

A scoping request was sent to Waterways Ireland in January 2025, and a response was received on the 30th January 2025 stating that the Proposed Project is not located within a zone of influence of any waterways and therefore they have no comment to make on the proposal.

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 November 2025. The data indicates that there is no GNI infrastructure is located within or adjacent to the Site with the nearest infrastructure being approximately 14km to the northeast of the Proposed Project.

ESB

A scoping request was sent to ESB and a response was received from ESB on the 20th of December 2024 confirming that they are “*pleased to advise that the proposed wind farm has been reviewed and cleared*”.

Iarnród Éireann

A scoping request was sent to Iarnród Éireann in January 2025, and a response was received on the 4th January 2025 stating that the nearest Iarnród Éireann infrastructure is located approx. 18.5km from the Site and there is no interaction between the Proposed Project and any railway network.

Clare County Council (Roads Department)

The Roads Department of Clare County Council responded to a scoping request from MKO on the 10th of March 2025 and stated they would be looking for the following in a planning application:

- Construction traffic management plan.
- Sightline assessment for all entrances. We do not accept speed survey assessments to justify a reduced speed limit but with the new speed limit of 60kph on local roads this reduces the requirement significantly.
- Identify the cable route and determine any road closures. Residents effected should be given a point of contact. TTMP to be agreed with Clare County Council and reinstatement of road to be agreed with the Area Engineer.
- The Municipal District Area Office should be made aware of the haul route and discussions should be had relating to repairs of the roadway immediate to any entrances to the Site. A pre, during and post inspection will be required with assessment carried out on any water crossings.
- Maintenance of the public road from any debris throughout the construction.
- Identify the entrances that will be maintained for operations.

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 where insofar as possible. Prior to commencement of construction, detailed site investigations will be carried out to confirm design assumptions and undertake additional surveys to identify any new services and utilities and ensure they will not be impacted by the Proposed Project. The construction of the proposed

underground cabling connection 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**

There is existing 110kV and 38kV underground cabling within the Proposed Grid Connection Site, which relate to the existing Slievecallan wind farm and 110kV substation. The proposed underground cabling connection has been routed to avoid impact on the existing underground cabling within the Proposed Grid Connection Site.

It is proposed to permanently extend the existing Slievecallan 110kV substation to accommodate the connection of the Proposed Project. The works will consist of the construction of a new control building with welfare facilities, associated electrical plant and equipment and security fencing. The proposed substation extension compound is located in an established expansion area within the Slievecallan Wind Farm and accessed by existing wind farm access roads. The Proposed Project has been designed to avoid, where possible, existing underground electricity cables associated with the Slievecallan Wind Farm.

15.3.3.1.1 **Gas**

There are no gas lines located within the Proposed Wind Farm Site as identified in Section 15.3.2.1. above.

15.3.3.2 **Water**

Group Water Scheme

There are no recorded Group Water Schemes (GWS) within or surrounding the Proposed Project. This closest GWS is located in Kilnaboy and is approx. 16km away in a northeasterly direction, from the Site.

Uisce Eireann

As detailed in Section 15.3.2.1 above, there are 2 no. watermains within the Site. The closest proposed works to these watermains is Area B within the Proposed Enhancement Site, which is approximately 20m from an existing private watermain. No effects on the existing private watermains are anticipated as no works are proposed for the Proposed Enhancement Site within the public road network.

15.3.3.2.1 **Motorways**

The Proposed Project will not interfere or traverse any motorways within or surrounding the Site. The nearest motorway is the M18 which is approximately 23.5km away to the east of the Proposed Project, and therefore it will not be any interference outside of abnormal loads from turbine delivery.

15.3.3.2.2 **Railways**

As detailed in Section 15.3.2.1 above, the Proposed Project will not interact with any existing railway infrastructure. The nearest railway is approximately 16km away, southeast to the Proposed Project, and therefore it will not be any interference.

15.3.4 **Waste Management Services**

There are no EPA-licensed or local authority-authorized waste facilities or activities located within the Site. The closest, authorised municipal waste facility is located approx. 20.5km southeast of the Site at Inagh, Co. Clare.

15.3.4 Waste Management Services

There are no EPA-licensed or local authority-authorized waste facilities or activities located within the Site. The closest, authorized municipal waste facility is located approx. 20.5km southeast of the Site at Inagh, Co. Clare.

A Waste Management Plan (WMP) has been prepared and forms part of the Construction and Environmental Management Plan (CEMP) in Appendix 4-5 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. Therefore, all waste streams generated onsite will be deposited into a single waste skip. The waste material will be transferred to a Materials Recovery Facility (MRF) by a fully licenced waste contractor where the waste will be sorted into individual waste stream for recycling, recovery or disposal.

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

Further details on waste management are presented in the CEMP which is included as Appendix 4-5.

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. Any waste generated due to the operation and maintenance of the Proposed Project will be disposed of in a covered skip. The waste material will be transferred to a MRF by a fully licenced waste contractor where the waste will be sorted into individual waste stream for recycling, recovery or disposal.

15.3.5 Likely Significant Effects and Associated Mitigation Measures

15.3.5.1 'Do-Nothing' Scenario

If the Proposed Project were not to proceed, there would be no change to other material assets in the area.

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

15.3.5.2 Construction Phase

15.3.5.2.1 Existing Built Services

Pre-Mitigation Impact

Electricity

As detailed above, there is 1 no. 110kV underground cable within the Proposed Grid Connection Site, and no overhead electricity lines within the Site. The Proposed Project has been designed to avoid existing underground electricity cables and can be described as mitigation by design, therefore there is no potential to give rise to effects on electrical services.

There is no 400kV overhead electricity lines in the townland of Slievecallan, Co. Clare. Under a precautionary approach a short-term, slight negative impact, which is Not Significant, on local electricity supply has been identified due to potential interference or breakage of OHL during the construction phase. Working in the vicinity of overhead electricity 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.

Under a precautionary approach a short-term, slight negative impact, which is Not Significant, on the proposed 33kV underground cabling has been identified due to potential interference or breakage during the construction phase. Working in the vicinity of underground electricity 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

The Proposed Project infrastructure has been designed to avoid any underground gas lines and can be described as mitigation by design, however there is no underground gas lines and therefore there is no potential to give rise to impacts on underground gas lines.

Water

The built infrastructure of the Proposed Project has been designed to avoid any underground water mains and can be described as mitigation by design, therefore there is no potential to give rise to impacts on underground water mains, as there are none according to the baseline.

Motorways

The Proposed Wind Farm Site is approximately 23.5km west of the nearest motorway (the M18) at its closest point (T5). The Proposed Project will not interfere or traverse any motorways within or surrounding the Site, therefore there is no potential to give rise to impacts on the motorway.

Impacts associated with traffic and transport are outlined in Section 15.1.13 above.

Railways

The Proposed Project will not cross any existing or known railway lines within or surrounding the Proposed Project. The Proposed Project will not interfere or traverse any railways within or surrounding the Site, therefore there is no potential to give rise to impacts on the rail network.

Mitigation

Notwithstanding the above, specific measures are incorporated into the CEMP, included as Appendix 4-5 of this EIAR, to ensure that the construction of the Proposed Project will not have effect on underground electrical cables and built services within the Site. The mitigation measures include the following:

- The construction of the proposed 33kV underground cabling will be in phases along the Proposed Grid Connection Site, to minimise the duration of outage whilst making

the connection to the proposed extension to the existing Slievecallan 110kV substation.

- Goal posts will be established under overhead lines for the entirety of the construction phase. They will not exceed a height of 4.2 metres, unless specifically agreed with ESB Networks¹⁵
 - Prior to construction, the Applicant will engage with ESB via the ‘Dial Before You Dig’ procedure online. ESB will be contacted via dig@esb.ie **before** excavating near any overhead lines.
- The suitability of machinery and equipment for use near power lines will be risk assessed.
- 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. Please see Section 15.1.8 above for details.
- 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 and 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** commencing construction. Furthermore, the ‘*Safety advice for working in the vicinity of natural gas pipelines*’ guidance document and the GNI ‘*Code of Practice*’ standards will be adhered to during all proposed works.
 - The developer will also carry out further consultation in the pre-construction phase and construction phase with GNI to confirm the crossing methodology to be deployed and to ensure that no new service crossings have been implemented. Furthermore, site investigation will be undertaken post planning grant and results will be shared with GNI as part of the Design Review process prior to construction.

¹⁵ <https://www.esbnetworks.ie/docs/default-source/publications/code-of-practice-for-avoiding-danger-from-overhead-electricity-lines.pdf>

- 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 supply. 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.
 - In the event that water mains are encountered 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 specifications of the relevant utility provider,

Residual Effect

Following the implementation of the above mitigation measures, there will be a short-term imperceptible negative residual effect during the construction phase of the Proposed Project (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.

15.3.5.2.2 **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 4-5 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

- The CEMP, Appendix 4-5 of this EIAR, includes a Waste Management Plan (WMP) which outlines the best practice procedures during the construction and decommissioning phases of the project.
- Waste management will be carried out in accordance with ‘*Best Practice Guidelines on the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects*’ (2021)¹⁶ produced by the EPA. 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 seen as a last resort.
- All hazardous wastes will be stored in bunded containers/areas before being collected by an authorised waste contractor and brought to an EPA licensed waste facility. Hazardous wastes will be kept separate from non-hazardous wastes that contamination does not occur. Please see the CEMP for best practise measures to prevent the creation of waste materials.

¹⁶ <https://www.epa.ie/publications/circular-economy/resources/CDWasteGuidelines.pdf>

- All non-hazardous waste generated on-site by the Proposed Project will be contained in waste skips 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.
- The expected waste volumes generated on-site are unlikely to be large enough to warrant source segregation at the Site. Therefore, all waste streams generated on-site will be deposited into a single waste skip. This waste material will be transferred to a Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal.
- The waste generated from the turbine erection will be limited to the associated protective covers which are generally reusable. Considering the specialist nature of this packaging material the majority will be taken back by suppliers for their own reuse. Any other packaging waste generated from the turbine supply will be deposited into the on-site skips and subsequently transferred to the MRF.
- It is not envisaged that there will be any waste material arising from the materials used to construct the site roads as only the quantity of stone necessary will be sourced from local quarries and brought on site on an 'as needed' basis.
- Site personnel will be instructed at induction that under no circumstances can waste be brought to site for disposal in the on-site waste skip. It will also be made clear that the burning of waste material on-site is forbidden.

Residual Effects

With the implementation of the above measures, the residual effect is considered to be a negative, short-term, slight 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.

15.3.5.3 Operational Phase

15.3.5.3.1 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 54MW which has potential to produce 170,294 MWh of electricity. This would be sufficient to supply approximately 49,056 Irish households with electricity per year during its operational phase. The Proposed Project will therefore have a positive, moderate, long-term effect on built services.

15.3.5.3.2 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 existing 110kV Slievecallan substation compound. 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.

15.3.5.4 Decommissioning Phase

The wind turbines proposed as part of the Proposed Project are expected to have a lifespan 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 Site will be decommissioned fully as described in Section 4.12 of Chapter 4 and the accompanying Decommissioning Plan in Appendix 4-6.

The works required during the decommissioning phase are described in Section 4.12 in Chapter 4 of this EIAR. Any impact and consequential effect that occurs during the decommissioning phase will be similar to that which occurs during the construction phase, however to a lesser extent. Based on the assessment outlined above in Section 15.3.5, there will be no significant effects on existing and built services, or waste management as part of the decommissioning phase.

15.3.5.5 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 cumulative impact on built services and waste management from the Proposed Project during the construction phase and permitted or Proposed Projects and plans in the area, as set out in Section 2.9 in Chapter 2: Background to the Proposed Project of this EIAR.

In addition to the Proposed Project, the following existing and proposed developments are acknowledged to have connections to the Slievecallan 110kV substation:

- Existing Slievecallan Wind Farm
- Proposed Illaunbaun Wind Farm (PI Ref 2560520 and 2660207)
 - Expected to connect to Slievecallan 110kV substation via underground cabling - assessment of the final grid route will be undertaken at later stages of the project and a planning application submitted at the appropriate time.

In the event that the Proposed Illaunbaun Wind Farm includes for connection into the Slievecallan 110kV substation, there is potential for interaction along approx. 320m of existing private access road and it is likely that the construction phases of this project will not overlap with the construction phase of the Proposed Project. There are no cumulative effects associated with the operational and decommissioning phases of the Proposed Project.

15.3.6 EIA Classification Summary

Please see the below table for a summary of all identified impacts for the Proposed Project relating to Other Material Assets.

Table 15-31 Impact Assessment Classification Summary

Topic	Pre-Mitigation Effect	Mitigation Section Reference	Residual Effect	Significance
Construction Phase				
Traffic and Transport	Short-Term, Slight, Negative	Section 15.1.13.5.1 Section 15.1.13.5.2	Short-Term, Imperceptible, Negative	Not Significant
Telecommunications	None	No mitigation required	None	Not Significant
Aviation	None	No mitigation required	None	Not Significant
Other Material Assets (Existing Build Services)	Electricity- Short-term, slight negative impact	Section 15.3.4.2.1	Short-term imperceptible negative effect	Not Significant
Other Material Assets (Waste Management)	Negative, moderate, short-term	Section 15.3.4.2.2	Negative, short-term, slight effect	Not Significant
Operational Phase				
Traffic and Transport	Long-Term, Imperceptible, Negative	Section 15.1.13.5.3	Long-Term, Imperceptible, Negative	Not Significant
Telecommunications	Imperceptible impact	Section 15.2.5.3.1	Imperceptible	Not Significant
Aviation	None	Section 15.2.5.3.2	Imperceptible	Not Significant
Other Material Assets (Existing Build Services)	None	N/A	Positive, moderate, long-term effect	Not Significant
Other Material Assets (Waste Management)	None	N/A	None	Not Significant

Decommissioning Phase				
Traffic and Transport	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 and lesser duration, and the mitigation measures outlined in Section 10.3.2 will be implemented during the decommissioning phase also	Section 15.1.13.5.4	N/A	N/A
Telecommunications	None	No mitigation required	None	Not Significant
Aviation	None	No mitigation required	None	Not Significant
Other Material Assets (Existing Build Services)	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 and lesser duration, and the mitigation measures outlined in Section 10.3.2 will be implemented during the decommissioning phase also	Section 15.3.4.2.1	N/A	N/A
Other Material Assets (Waste Management)	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 and lesser duration, and the mitigation measures	Section 15.3.4.2.2	N/A	N/A



	outlined in Section 10.3.2 will be implemented during the decommissioning phase also			
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