

Chapter 28: Traffic and Transport





ORIEL WIND FARM PROJECT

Environmental Impact Assessment Report Chapter 28: Traffic and Transport

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EIAR – Chapter 28
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28 TRAFFIC AND TRANSPORT

28.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) provides an assessment of the potential impacts of the Oriel Wind Farm Project (hereafter referred to as “the Project”) on traffic and transport on the existing road network during the construction, operational and maintenance, and decommissioning phases.

From a traffic and transport perspective, the key components of the Project that have the potential to impact on traffic and transport are the construction of the onshore cable from the landfall location to the onshore substation site along the existing road network and the construction of the onshore substation. The traffic and transport assessment also considers the potential impacts of the Project on traffic to ports used during all phases of the Project.

The assessment presented is informed by the following technical reports:

- Volume 2A, appendix 5-9: Construction Traffic Management Plan (CTMP); and
- Appendix 28-1: Traffic Survey Data.

This details and competencies of the specialist who prepared this chapter can be found in volume 2A, chapter 1: Introduction.

28.2 Purpose of this chapter

The primary purpose of this EIAR chapter is to provide an assessment of the likely direct and indirect significant effects of the Project on road users within the existing road network. In particular, this EIAR chapter:

- Presents the existing environmental baseline established from desk studies and site-specific surveys (section 28.7) of the following:
 - The existing road network along which the onshore cable will be installed. Site surveys recorded typical road widths, verge space, road condition, observations on vertical and horizontal alignment and the characteristics of the junctions that the onshore cable route will be crossing; and
 - Traffic surveys on the roads along the onshore cable route to establish the scale and speed of vehicles that are using these roads.
- Identifies any assumptions and limitations encountered in compiling the environmental information (section 28.7.12);
- Presents an assessment of the potential likely significant effects on the road network within the Traffic and Transport Study Area arising from the Project (section 28.10), based on the information gathered and the analysis and assessments undertaken. An assessment of potential cumulative impacts is provided in section 28.11 and an assessment of transboundary effects is outlined in section 28.12; and
- Highlights any necessary monitoring (section 28.10.7) and/or measures (section 28.8.2 and 28.10.6) to prevent, minimise, reduce or offset the likely significant environmental effects identified in the assessment (section 28.10).

28.3 Study area

The Traffic and Transport Study Area for this assessment is the road network associated with the onshore cable and onshore substation of the Project (see Figure 28-1). This included the full pavement area, verge spacing, access to the dwellings and junctions. The roads directly impacted by this onshore infrastructure works are as follows and are shown graphically in Figure 28-2.

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- N33;
- L-2226 (Mullinscross/Drumcar Road);
- L-6238 (Castlethomas/Drumcar Road);
- L-2239 Togher Road (Keenan's Cross to Drumcar Road);
- L-2240 Togher Road (Keenan's Cross to Coast Road);
- L-2221 Coast Road; and
- L-6223 Dunany Road.

The CTMP (see appendix 5-9, volume 2A) highlights some advisory temporary diversions to provide alternative route options for through traffic flow. Therefore, the following roads are included in the overall Traffic and Transport Study Area:

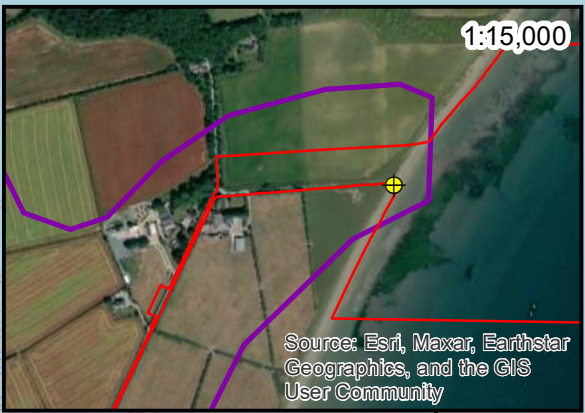
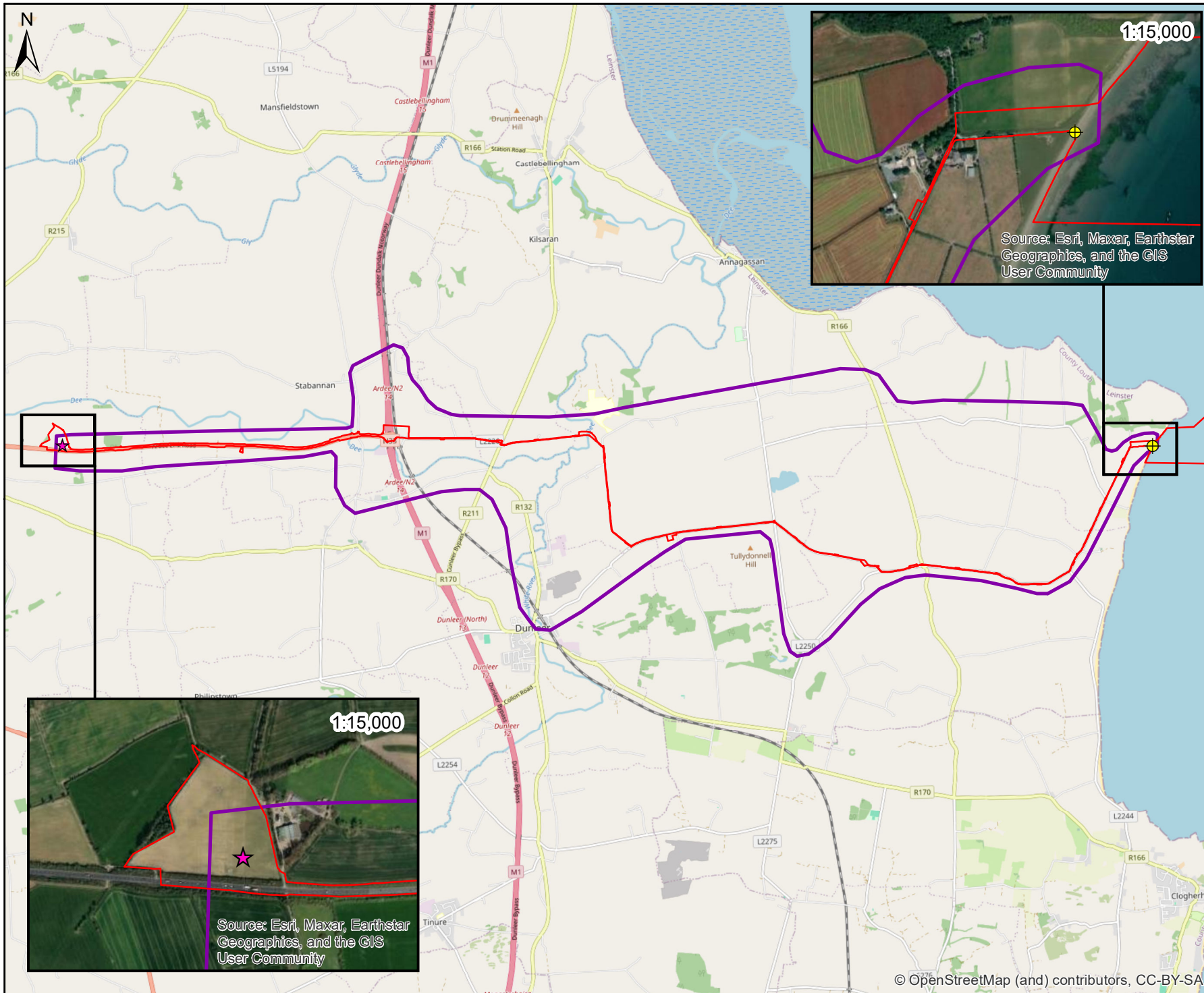
- R166;
- L-2239 Mountain View Road /Togher Road;
- L-2226 Drumcar Road;
- L-6241 (Clonmore Road);
- L-2250;
- L-2223 Martinstown Cross;
- L-6242; and
- L-6222.

The grade separated junction at the M1 (Junction14 – Charleville Interchange) will be reviewed from a high level for assessment purposes; the proposed methodology for crossing the M1 and adjacent railway line will be a Horizontal Directional Drilling (HDD) in fields offline from the road and will therefore not impact on the operating performance of the motorway or Junction 14 or the Dublin-Belfast railway line. Figure 28-2 shows the outline of the roads directly impacted by the onshore cable route (including joint bay locations).

There will be a small increase in traffic associated with a marshalling harbour during the construction phase. A port that has the required facilities and consents/permissions for the pre-assembly operations at the construction phase, will be used. There are suitable ports that are being considered for the Project within the Irish Sea and Celtic Sea including those with existing consents (e.g. Belfast Port or Mostyn Harbour (Wales)) and ports with proposed development plans for offshore wind pre-assembly facilities (e.g. Rosslare Europort and Port of Cork). Traffic associated with a marshalling harbour, has also been considered in this traffic and transport assessment.

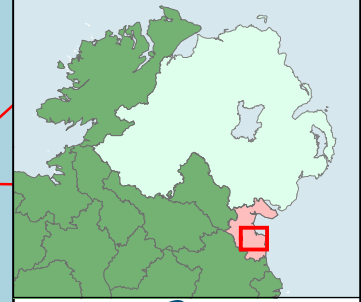
Furthermore, there will be a small increase in traffic associated with an operations and maintenance (O&M) base during the operational and maintenance phase. The O&M base will control and monitor offshore activities from an existing port in County Louth or County Down. There are several suitable ports within a one-hour sailing time to the wind farm area including Kilkeel, Warrenpoint and Greenore. Traffic associated with an O&M base has also been considered in this traffic and transport assessment.

To examine the potential for cumulative effects on traffic and transport, the Zone of Influence (ZoI) within 2 km of the onshore cable route and 5 km of the onshore substation site was defined. The ZoI includes the road network associated with the onshore cable and onshore substation site of the Project, including the full pavement area, verge spacing, access to the dwellings and junctions.



- Legend**
- Planning Application Boundary
 - ★ Onshore Substation Site
 - ⊕ Landfall Location
 - Traffic and Transport Study Area

Data Sources: OWL, Tailte Éireann.



Project
Oriel Wind Farm Project

Title
**Figure 28-1
Traffic and Transport
Study Area**

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West Pier Business Campus,
Dun Laoghaire,
Co Dublin,
Ireland.

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Issue Details

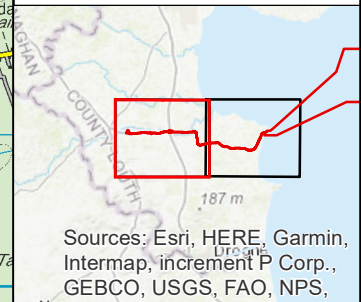
Drawn By: MV	Project No. MDR1520B
Checked By: HF	File Ref:
Approved By: CC	MDR1520B-Arc3025F02
Scale: 1:80,000 @A4	Projection: ITM (IRENET95) Geographic Co-ordinates: ETRS89
Date: 21/02/2024	

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- Legend**
- Planning Application Boundary
 - + Landfall Location
 - ▲ Joint Bay with Passing Bay (Single Lane/Signal Controlled)
 - ▲ Joint Bay with no Passing Bay (Traffic Management Control)

Data Sources: OWL, Tailte Éireann.



Client



ORIEL WINDFARM
OFFSHORE RENEWABLE ENERGY

Project
Oriel Wind Farm Project

Title **Figure 28-2**
Road network directly impacted by the onshore cable route (including location of joint bays)
Map 1 of 2

West Pier Business Campus, Dun Laoghaire, Co Dublin, Ireland.

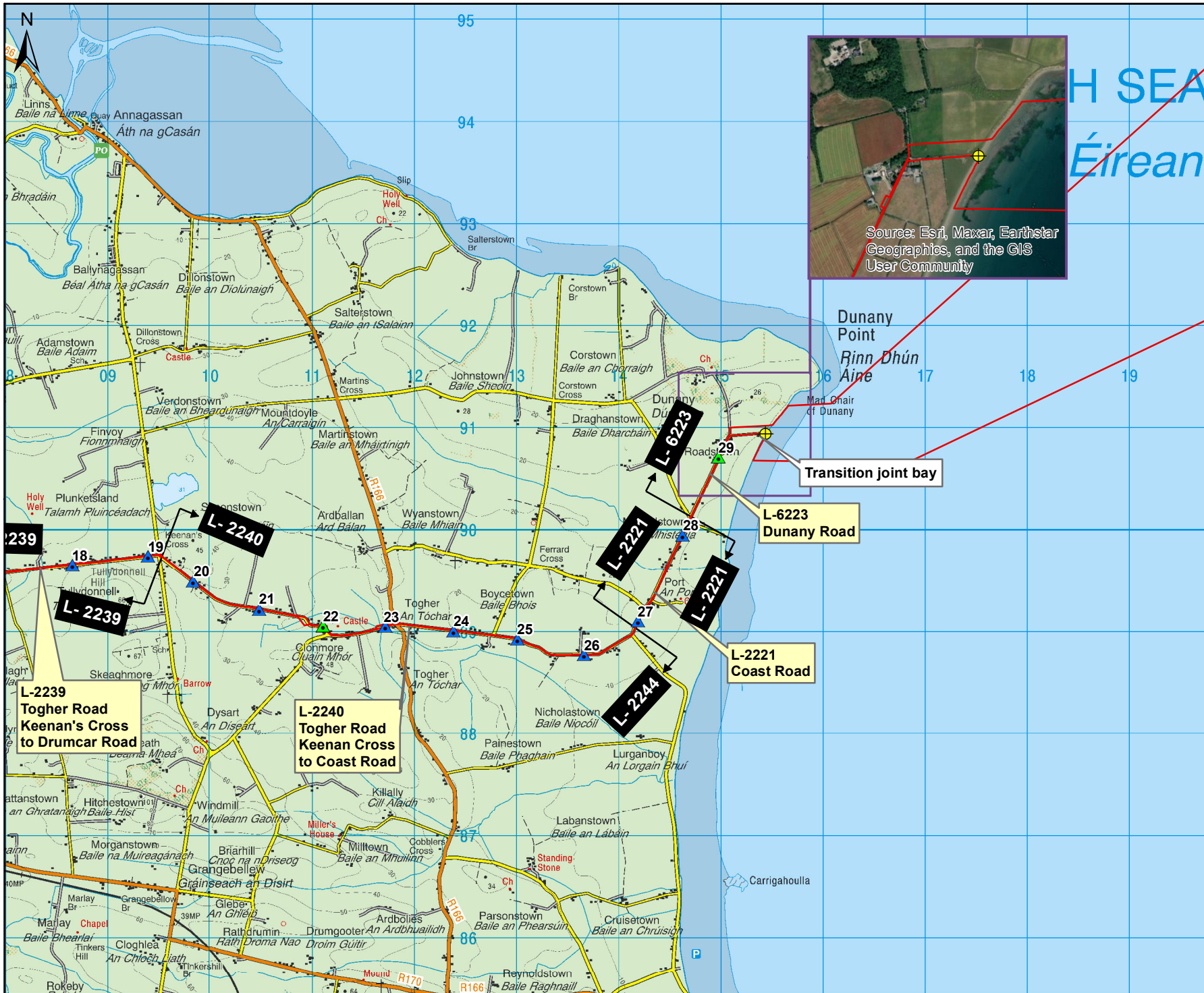


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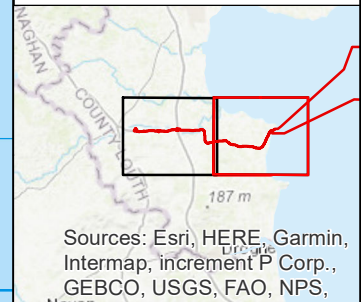
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Checked By: HF	File Ref:
Approved By: CC	MDR1520B/Arg/024F02
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- Legend**
- Planning Application Boundary
 - + Landfall Location
 - ▲ Joint Bay with Passing Bay (Single Lane/Signal Controlled)
 - ▲ Joint Bay with no Passing Bay (Traffic Management Control)

Data Sources: OWL, Tailte Éireann.



Client



ORIEL WINDFARM
OFFSHORE RENEWABLE ENERGY

Project
Oriel Wind Farm Project

Title
**Figure 28-2
Road network directly impacted
by the onshore cable route (including
location of joint bays)**
Map 2 of 2

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Issue Details	
Drawn By: NR	Project No. MDR1520B
Checked By: HF	File Ref:
Approved By: CC	MDR1520B:Arg:042F02
Scale: 1:50,000 @A4	Projection: ITM (IRENET95) Geographic Co-ordinates: ETRS89
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28.4 Policy context

Planning policy on renewable energy infrastructure is presented in volume 2A, chapter 2: Policy and Legislation. This section presents planning policy that specifically related to traffic and transport, which primarily includes the Louth County Development Plan 2021-2027 (LCC, 2021). The Louth County Council Development Plan was adopted by the members of Louth County Council (LCC) on the 30 September 2021 and the Plan came into effect on the 11 November 2021. The Plan highlights a number of policies relevant to traffic and transport, and these are summarised in Table 28-1.

Table 28-1: Summary of Louth County Development Plan policies relevant to traffic and transport.

Summary of policy	How and where considered in the EIAR
<p>Policy Objective MOV47: <i>'To require the preparation of Transport and Traffic Assessments for new developments in accordance with the requirements set out in the TII Traffic and Transport Assessment Guidelines.'</i></p>	<p>This traffic assessment takes cognisance of this policy by ensuring high standards of safety for road users and has been undertaken in line with Transport Infrastructure Ireland (TII) guidance. See section 28.11.</p>
<p>Policy Objective MOV60: <i>'To identify and preserve existing accesses and public rights of way to recreational areas including the coast, mountains, riverbanks and other places of natural beauty and recreational utility'</i></p>	<p>Existing access to recreational areas including the coastal areas will be temporarily impacted during the construction phase.</p>

28.5 Consultation

Table 28-2 summarises the issues identified during consultation activities undertaken to date, which are relevant to traffic and transport, together with how these issues have been considered in the preparation of this EIAR chapter. Chapter 6: Consultation (volume 2A) provides details on the types of consultation activities undertaken for the Project between 2019 and 2024 and the consultees that were contacted.

Table 28-2: Summary of key consultation issues raised during consultation activities undertaken for the Project relevant to traffic and transport.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
November 2019	LCC Roads Department/ Project briefing response	LCC queried the land acquisition proposals for the passing bays.	All lands for passing bays are a temporary wayleave agreement with the landowner (see volume 2C, chapter 20: Land and Agriculture). Once the works are finished, and the road is reinstated, the passing bays will be decommissioned and the lands fully reinstated.
		LCC outlined that a full width road surface reinstatement will be required after the works are complete.	There will be a requirement to complete road condition surveys pre and post construction works (see volume 2A, chapter 5: Project Description). Upon completion of construction and road condition surveys, the road surface will be reinstated to the standard required, and in accordance with the requirements of LCC and TII.
		LCC enquired about placement of cable in road along the N33.	The onshore cable will be installed in the verge along the N33 (see volume 2A, chapter 5: Project Description).
		LCC to review the CTMP prior to submission of the planning application and provide comments.	The CTMP is included in appendix 5-9: Construction Traffic Management Plan. This was provided to LCC Roads Department in 2023. The CTMP to be further developed by the appointed Contractor prior to construction and agreed with LCC.

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Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		LCC questioned that if HDD is proposed under the M1 and Irish Rail why not use it along the length of the N33.	HDD is more suited to shorter distances and not for longer linear distances, due to the heating up of the cables and cost of HDD works.
September 2019	Transport Infrastructure Ireland/ Scoping response	TII raised concerns as to potential impacts of the development on the national road network such as the M1, N2 and N33.	The national road network has been considered in sections 28.7 and 28.10.
		Proposals for onshore elements such as the onshore substation site location should be cognisant of relevant guidelines and regulations and should avoid any policy conflict.	Relevant guidelines and policy have been considered in volume 2A, chapter 2: Policy and Legislation and sections 28.4 and 28.7 of this chapter.
		TII raised that the development should in particular have regard to any potential cumulative impacts.	Cumulative impacts have been assessed and are addressed in section 28.11 of this chapter.
January/February 2023	Member of the public during public consultation	Query regarding access to the public walkway along the N33 during cable laying works and ongoing access for the future.	There will be a requirement to undertake works to install a fibre optic cable connection across the public walkway on the N33. These works will be temporary (less than one week).
January 2023	Member of the public during public consultation	Query regarding requirement for road closures for the construction of the Project.	Temporary road closures are required at the L2215 (Diversion 1) for 2 days and at the L6223 (Diversion 14 and 15) for 2-3 weeks. However, diversion routes will be provided (as outlined in Table 28-18. See also appendix 5-9: CTMP, which will be implemented during construction.
August 2023	LCC Roads Department	n/a	CTMP in appendix 5-9, volume 2A provided to LCC for information.

28.6 Methodology to inform the baseline

28.6.1 Desktop study

The key sources (i.e. data) used to inform the baseline characterisation of the Traffic and Transport Study Area are summarised in Table 28-3 below. These sources provide the most up to date data for this assessment.

Table 28-3: Summary of data sources.

Sources	Study	Data type	Format	Year
Road Safety Authority (RSA)	Online Map of Collisions - Collision Data for the period 2005-2016.	Collision Data	Webmap Online	Accessed for this assessment in October 2022.

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28.6.2 Site-specific surveys

In order to inform the EIAR, site-specific surveys were undertaken. A summary of the surveys undertaken to inform the traffic and transport assessment are outlined in Table 28-4. All the survey data is presented in appendix 28-1: Traffic Survey Data. It is noted that survey data from August/September/December 2019 is a relevant reflection of typical traffic volumes in the area as the built environment has not altered significantly in the area in the subsequent time period.

Table 28-4: Summary of site-specific survey data.

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
Windscreen Survey	N33, local and regional road network	A drive-by survey was undertaken along the N33, local and regional road network, where observations were recorded on road characteristics (including typical road and verge widths to identify potential available working areas), number of dwelling and other land uses. A number of road widths were recorded, and photos were undertaken.	RPS Project Team	July and October 2019; and January 2023.	Section 28.7.
Automatic Traffic Surveys	The local and regional road network	Counters were positioned at eight locations where traffic flows and vehicle speeds were recorded in each direction for a seven-day period.	Nationwide Data Collection	August/September 2019	Appendix 28-1: Traffic Survey Data.
Automatic Traffic Surveys	Local Road Network	Counters were positioned at three locations where traffic flows and vehicle speeds were recorded in each direction for a seven-day period.	Nationwide Data Collection	December 2019	Appendix 28-1: Traffic Survey Data.

28.7 Baseline environment

As the proposed onshore cable route is approximately 20.1 km long, the road network that is directly impacted by the proposed works is divided for baseline assessment purposes into seven sections. The sections comprise both National Primary and local roads and are differentiated based on changes in the road identification numbers. The sections of the existing road network are presented from the onshore substation area towards the landfall location at the coast. The sections are defined below and shown in Figure 28-2.

- N33;
- L-2226 (Mullinscross/Drumcar Road);
- L-6238 Castlethomas/Drumcar Road);
- L-2239 Togher Road (Keenan's Cross to Drumcar Road);
- L-2240 Togher Road (Keenan's Cross to Coast Road);
- L-2221 Coast Road; and
- L-6223 Dunany Road.

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28.7.1 N33

The N33 is a National Primary Road that connects the M1 (at Junction 14, Charleville Interchange) to the N2 at Ardee. It is a strategic road that provides access to County Monaghan and Northern Ireland (Derry) from the M1. It is a wide Type 1 single carriageway with an approximately 7.5 m wide carriageway and wide hard shoulders (approximately 2.9 – 3.3 m wide). It has a prolonged straight horizontal alignment and good forward visibility and has a wide cross section. Images 28-1 to 28-2 shows the characteristics of N33 in terms of road width, verge space and alignment.



Image 28-1: N33 (looking west).



Image 28-2: N33 (looking east).

28.7.2 L-2226 (Mullinscross/Drumcar Road)

The L-2226 provides access to the M1 and N33 from the R132. There is a ditch along the southern verge. There is ribbon residential development along sections of the road with hedgerows and verges maintained in front of the dwellings. The horizontal alignment is predominately straight which allows for good forward visibility. There are slight undulations in the vertical alignment, but it doesn't have a significant detrimental impact on the forward visibility. The L-2226, west of the R132, has a paved width of 7.0 m, adjacent to the junction with the R132, and has a low-lying verge to the southern side of the road. There are road markings on approach to the junction with the R132. Images 28-3 to 28-6 shows the characteristics of the L-2226 in terms of road width, verge space and alignment.

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Image 28-3: L-2226 (on approach to the M1).



Image 28-4: L-2226 (adjacent to dwellings).



Image 28-5: L-2226 (west of R132).



Image 28-6: L-2226.

The R132/L-2226 is a key junction on this section of the onshore cable route. The junction is wide on both sides of the road and the verges are low-lying on the R132, which optimises the sightlines along the R132 for vehicles entering from the L-2226. There is a public house (Dorians Bar), which is located at the junction and the gable end of the premises is flush with the R132 which can impact on the scale of visibility. Due to the staggered composition of the junction, crossing time is extended for vehicles travelling looking to continue travelling on the L-2226. Image 28-7 shows the staggered crossroad junction between the R132/L-2226.

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Image 28-7: R132/L-2226 Junction (looking north).

The L-2226, east of the R132 has a paved width of 5.2 m at the point of measurement, with low-lying verges on the northern side of the road. The horizontal alignment is straight (which provides for sections of extended forward visibility) but there are also some sections where the vertical alignment is undulating. There is ribbon residential development along a section of this road with maintained low-lying grass verges in front of the dwellings. There is a narrow skew bridge over the River Dee at Drumcar with restricted visibility and currently there are warning bollards positioned along the edge of the parapet walls. The bridge has approximately 5.0 m road width. East of this bridge the L-2226, is approximately 5.5 m but there are no low-lying verges as there is extensive tree cover that portrays a tunnelled vision. There are two dwellings located at the junction of the L-2226 and L-6238 Castlethomas/Drumcar Road. Images 28-8 to 28-11 shows the characteristics of the L-2226 (east of R132) in terms of road width, verge space and alignment.

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Image 28-8: L-2226 (east of R132).



Image 28-9: L-2226 (west of the skew bridge).



Image 28-10: L-2226 (skew bridge).

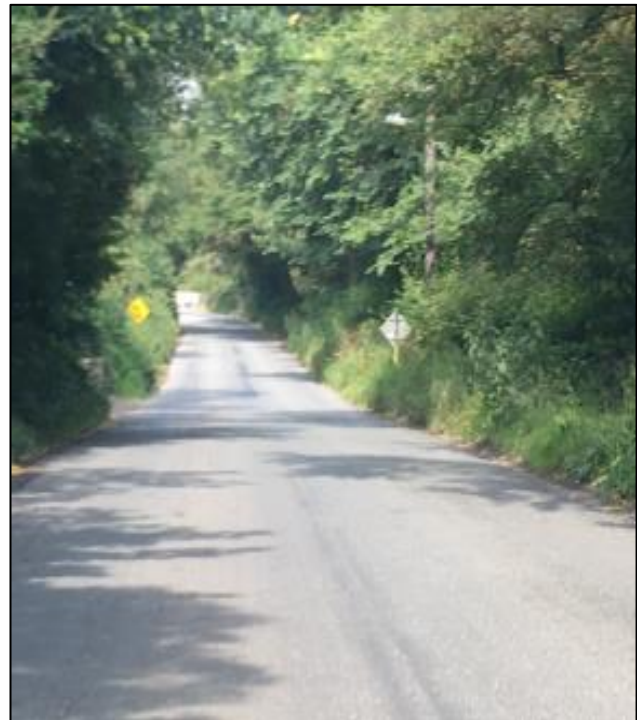


Image 28-11: L-2226 (east of the skew bridge).

28.7.3 L-6238 (Castlethomas/Drumcar Road)

This section of the road has three distinct differences in characteristics. On the northern section, the road widens to 5.5 m at the junction with the L-2226. The middle section has an undulating vertical alignment over a short stretch, where the paved road width reduces to approximately 4.8 m and a minimum of 3.5 m width,

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adjacent to some ribbon development. At the southern section of the L-6238, the paved width is approximately 5.0 m with low verge space which is approximately 1.7 m wide. It has a predominately straight alignment in the southern section which maximises the forward visibility. A dairy lorry was noted turning out of the farm access which indicates that large vehicles currently use this road. Images 28-12 to 28-15 shows the characteristics of the L-6238 (Castlethomas/Drumcar Road) in terms of road width, verge space and alignment.



Image 28-12: L-6238 (on approach to L-2226).



Image 28-13: L-6238 (reduced width).



Image 28-14: Undulating Vertical Alignment.



Image 28-15: L-6238 (North of the L-2239).

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28.7.4 L-2239 Togher Road (Drumcar Road to Keenan’s Cross)

This local road has a good surface quality with a paved width of approximately 5.0 m to 5.3 m and it has clear road markings. In addition, there are wide low-lying verges on either side of the road, which gives a broad view line. There is a deep drainage channel on the south side of the verge. Like other sections of the route the horizontal alignment is straight and as there is significant sections of uniform flat vertical gradient it allows for significant forward visibility.

Images 28-16 to 28-19 shows the characteristics of the L-2239 (Togher Road –Drumcar Road to Keenan’s Cross) in terms of road width, verge space and alignment.



Image 28-16: L-2239 (approaching the L-6238).



Image 28-17: L-2239.



Image 28-18: L-2239 (adjacent to dwellings).



Image 28-19: L-2239 (west of Keenans Cross).

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28.7.5 L-2240 Togher Road (Keenan’s Cross to Coast Road)

East of Keenan’s Cross the road width is initially approximately 5.4 m and there is one elongated bend and two straight sections in the road alignment. The road width travelling east then reduces to approximately 4.7 m with 1.5 m wide low-lying verges. There are two sharp bends in the alignment at the location of the graveyard at Clonmore and the road continues and meanders past a cluster of residential developments on approach to Carrons of Togher. Through this section of road, the paved width is approximately 4.7 m with maintained lowcut verge space between the edge of the carriageway and the boundary walls.

Images 28-20 to 28-23 shows the characteristics of the L-2240 Togher Road (west of the R166) in terms of road width, verge space and alignment.



Image 28-20: L-2240 (at Keenan’s Cross).



Image 28-21: L-2240 (residential developments).



Image 28-22: L-2240 (looking west).



Image 28-23: L-2240 (adjacent to the Graveyard).

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The road width on the L-2240 Togher Road, east of the R166, has an average paved width of approximately 4.5 m but narrows to 4 m on approach to the junction with the L-2221. The verge spaces are more limited along this section of the road with on average 1.6 m to 1.9 m wide verges. The road alignment is predominantly straight for the section from the R166 at Togher towards the Coast Road and then has a series of prolonged bends prior to its intersection with the Coast Road. The vertical alignment is predominately flat over the full section of the road.

Images 28-24 to 28-27 shows the characteristics of the L-2240 Togher Road (east of the R166) in terms of road width, verge space and alignment.



Image 28-24: L-2240 (approach to the R166).



Image 28-25: L-2240 (looking east on R166).



Image 28-26: L-2240 (bends in the road).



Image 28-27: L-2240 (close to the Coast Road).

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28.7.6 L-2221 Coast Road

The L-2221 Coast Road, on approach to the L-6223 Dunany Road, has a paved 4.5 m road width and low verges along both sides of the carriageway, which can vary in width from between 1.2 m and 2.5 m. The road has a straight alignment and it serves a number of individual residential developments which access directly onto the road.

Images 28-28 and 28-29 shows the characteristics of the L-2221 Coast Road in terms of road width, verge space and alignment.



Image 28-28: L-2221 (on approach to Togher Road). Image 28-29: L-2221 (towards Dunany Road).

28.7.7 L-6223 Dunany Road

L-6223 Dunany Road is a cul-de-sac road servicing a number of residents/farmyards. The paved road width is between 3.2 m and 3.5 m but there are low verges on both sides of the road that vary in width from between 1.9 m/2.5 m on the east and 2.1 m/3.5 m on the west. The road has a straight alignment and has low traffic flows as it serves only localised development.

Images 28-30 and 28-31 shows the characteristics of the L-6223 Dunany Road in terms of road width, verge space and alignment.

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Image 28-30: L-6223 Dunany Road (looking south)



Image 28-31: L-6223 Dunany Road

28.7.8 Baseline traffic flows

Automatic Traffic Counters (ATC) were positioned on the sections of road (see Figure 28-5) that will be impacted by the onshore cable route. Due to the provision of Regional Roads dissecting the L-2226 and the L-2240 two ATC counters were put on both these roads. The ATC recorded the volumes, type and speeds of vehicles travelling in both directions. These surveys (see appendix 28-1: Traffic Survey Data) provide a profile of the traffic flow over a seven-day timeframe and provide adequate baseline data to establish the Annual Average Daily Traffic (AADT) on each of the roads.

Table 28-5 to Table 28-12 show the profile of the daily traffic flows on the sections of road that will be impacted by the onshore cable route.

Table 28-5: Profile of the N33 Daily Traffic Flows (Site 1).

Day	Eastbound	Westbound	Total
Tuesday 3 September 2019	6,902	7,061	13,963
Wednesday 4 September 2019	7,175	7,070	14,245
Thursday 5 September 2019	7,445	7,398	14,843
Friday 6 September 2019	7,458	8,850	16,308
Saturday 7 September 2019	5,591	5,658	11,249
Sunday 8 September 2019	5,920	4,836	10,756
Monday 9 September 2019	5,470	6,462	11,932
Weekly Average Daily Traffic (WADT)	6,566	6,762	13,328
Average Speed	86.2 km/h	103.3 km/h	94.9 km/h
85 th Percentile Speed	95.5 km/h	116.6 km/h	110.0 km/h

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Table 28-6: Profile of the L-2226 (Mullinscross/Drumcar Road - west of the R132) Daily Traffic Flows (Site 2).

Day	Eastbound	Westbound	Total
Tuesday 3 September 2019	1,287	1,314	2,601
Wednesday 4 September 2019	1,362	1,409	2,771
Thursday 5 September 2019	1,320	1,408	2,728
Friday 6 September 2019	1,317	1,431	2,748
Saturday 7 September 2019	966	972	1,938
Sunday 8 September 2019	895	901	1,796
Monday 9 September 2019	1,241	1,290	2,531
Weekly Average Daily Traffic (WADT)	1,198	1,246	2,445
Average Speed	78.8 km/h	80.3 km/h	79.6 km/h
85 th Percentile Speed	92.8 km/h	94.6 km/h	93.8 km/h

Table 28-7: Profile of the L-2226 (Mullinscross/Drumcar Road – east of the R132) Daily Traffic Flows (Site 3).

Day	Eastbound	Westbound	Total
Tuesday 3 September 2019	966	870	1,836
Wednesday 4 September 2019	1,115	1,056	2,171
Thursday 5 September 2019	1,021	951	1,972
Friday 6 September 2019	938	817	1,755
Saturday 7 September 2019	654	630	1,284
Sunday 8 September 2019	540	573	1,113
Monday 9 September 2019	907	875	1,782
Weekly Average Daily Traffic (WADT)	877	825	1,702
Average Speed	67.3 km/h	66.0 km/h	66.7 km/h
85 th Percentile Speed	83.3 km/h	80.2 km/h	81.7 km/h

Table 28-8: Profile of the L-6238 Castlethomas/Drumcar Road Daily Traffic Flows (Site 4).

Day	Northbound	Southbound	Total
Tuesday 3 September 2019	239	250	489
Wednesday 4 September 2019	239	256	495
Thursday 5 September 2019	256	245	501
Friday 6 September 2019	217	225	442
Saturday 7 September 2019	200	239	439
Sunday 8 September 2019	154	182	336
Monday 9 September 2019	235	237	472
Weekly Average Daily Traffic (WADT)	220	233	453
Average Speed	59.4 km/h	55.2 km/h	57.2 km/h

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Day	Northbound	Southbound	Total
85 th Percentile Speed	75.9 km/h	70.2 km/h	72.7 km/h

Table 28-9: Profile of the L-2239 Togher Road (Drumcar Road to Keenan's Cross) Daily Traffic Flows (Site 5).

Day	Eastbound	Westbound	Total
Tuesday 3 September 2019	664	676	1,340
Wednesday 4 September 2019	698	716	1,414
Thursday 5 September 2019	708	750	1,458
Friday 6 September 2019	758	735	1,493
Saturday 7 September 2019	654	714	1,368
Sunday 8 September 2019	578	551	1,129
Monday 9 September 2019	625	635	1,260
Weekly Average Daily Traffic (WADT)	669	682	1,352
Average Speed	81.4 km/h	82.0 km/h	81.7 km/h
85 th Percentile Speed	96.1 km/h	97.2 km/h	96.7 km/h

Table 28-10: Profile of L-2240 Togher Road (Keenan's Cross to Coast Road - west of the R166) Daily Traffic Flows (Site 6).

Day	Eastbound	Westbound	Total
Tuesday 3 December 2019	347	371	718
Wednesday 4 December 2019	368	406	774
Thursday 5 December 2019	358	399	757
Friday 6 December 2019	386	395	781
Saturday 7 December 2019	352	374	726
Sunday 8 December 2019	279	277	556
Monday 9 December 2019	387	404	791
Weekly Average Daily Traffic (WADT)	354	375	729
Average Speed	72.4 km/h	74.5 km/h	73.5 km/h
85 th Percentile Speed	85.6 km/h	87.5 km/h	86.6 km/h

Table 28-11: Profile of L-2240 Togher Road (Keenan's Cross to Coast Road – east of the R166) Daily Traffic Flows (Site 7).

Day	Eastbound	Westbound	Total
Tuesday 3 December 2019	246	202	448
Wednesday 4 December 2019	280	246	526
Thursday 5 December 2019	239	207	446
Friday 6 December 2019	298	273	571
Saturday 7 December 2019	271	236	507

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Day	Eastbound	Westbound	Total
Sunday 8 December 2019	168	164	332
Monday 9 December 2019	231	195	426
Weekly Average Daily Traffic (WADT)	248	218	466
Average Speed	94.8 km/h	75.0 km/h	85.5 km/h
85 th Percentile Speed	115.4 km/h	94.2 km/h	108.7 km/h

Table 28-12: Profile of the L-2221 Coast Road (South of L-6223 Dunany Road) Daily Traffic Flows (Site 8).

Day	Northbound	Southbound	Total
Tuesday 3 December 2019	106	97	203
Wednesday 4 December 2019	152	135	287
Thursday 5 December 2019	93	87	180
Friday 6 December 2019	179	149	328
Saturday 7 December 2019	151	147	298
Sunday 8 December 2019	80	94	174
Monday 9 December 2019	91	89	180
Weekly Average Daily Traffic (WADT)	122	114	236
Average Speed	53.7 km/h	48.6 km/h	51.3 km/h
85 th Percentile Speed	66.3 km/h	60.6 km/h	63.5 km/h

28.7.9 Annual Average Daily Traffic (AADT)

AADT is the term used to describe the average traffic volume in both directions on a section of road, adjusted for seasonal variation. It is a standard industry recognised parameter for assessing traffic volumes. The traffic survey data gathered allowed a WADT flow to be determined as indicated in the previous tables. This data was expanded in accordance with TII Project Appraisal Guidelines (PAG) for National Roads Unit 16.1 — Expansion Factors for Short Period Traffic Counts (TII, 2016), to derive the AADT on the key sections of the road.

As the surveys were undertaken in September and December 2019 an index factor of 0.98 and 1.05 respectively was applied to the WADT to estimate the AADT. The conversion factor recognises the seasonal variation that can occur in traffic flow across the year in accordance with TII PAG for National Roads Unit 16.1 — Expansion Factors for Short Period Traffic Counts (October 2016). The AADT volumes are presented in Table 28-13 below.

Table 28-13: AADT Volumes.

Two-Way Traffic Road network section	Weekly Average Daily Traffic (WADT)	Monthly Index Factor (from TII PAG Unit 16.1 Annex C) – Border East	Annual Average Daily Traffic (AADT)
N33	13,328	0.98	13,061
L-2226 Mullinscross/Drumcar Road - west of the R132	2,445	0.98	2,396

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Two-Way Traffic Road network section	Weekly Average Daily Traffic (WADT)	Monthly Index Factor (from TII PAG Unit 16.1 Annex C) – Border East	Annual Average Daily Traffic (AADT)
L-2226 Mullinscross/Drumcar Road - east of the R132	1,702	0.98	1,668
L-6238 Castlethomas/Drumcar Road	453	0.98	444
L-2239 Togher Road (Keenan's Cross to Drumcar Road)	1,352	0.98	1,325
L-2240 Togher Road (Keenan's Cross to Coast Road west of R166)	729	1.05	765
L-2240 Togher Road (Keenan's Cross to Coast Road east of R166)	466	1.05	489
L-2221 Coast Road	236	1.05	248

28.7.10 Baseline collision data

Collision data for the period 2005-2016 was extracted from the RSA Online Map of Collisions, which was accessed¹ for this assessment in October 2022 in order to establish whether any clusters of incidents were recorded along the onshore cable route.

Accidents are categorised as fatal, serious and minor with a further breakdown of the type of vehicle and/or if it was a pedestrian/cyclist accident. Figure 28-3 and Figure 28-4 shows the recorded accidents in the Traffic and Transport Study Area.

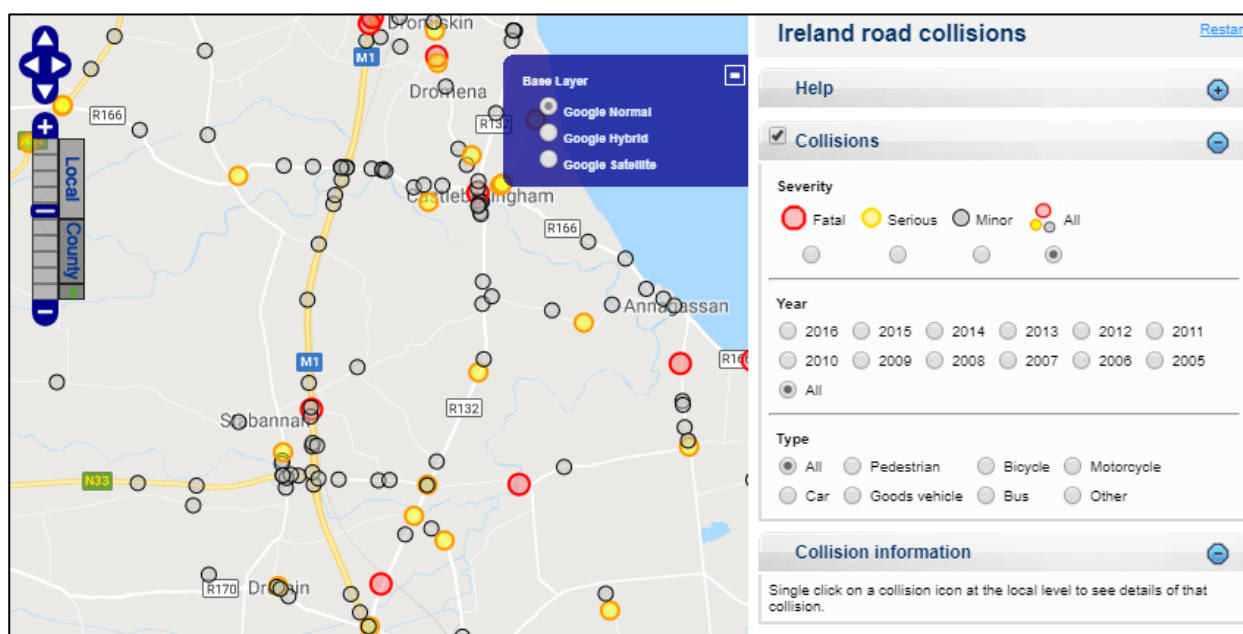


Figure 28-3: Collision Data along the onshore cable route (west of Keenan's Cross).

¹ Available at <https://www.rsa.ie/en/RSA/Road-Safety/RSA-Statistics/Collision-Statistics/Ireland-Road-Collisions/>.

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There were a number of minor accidents in the vicinity of the M1/N33 junction (Charleville Interchange). There was a fatal accident recorded in 2009 involving a car just southeast of the Drumcar bridge and a serious accident recorded back in 2011 at the junction of the R132/L-2226.

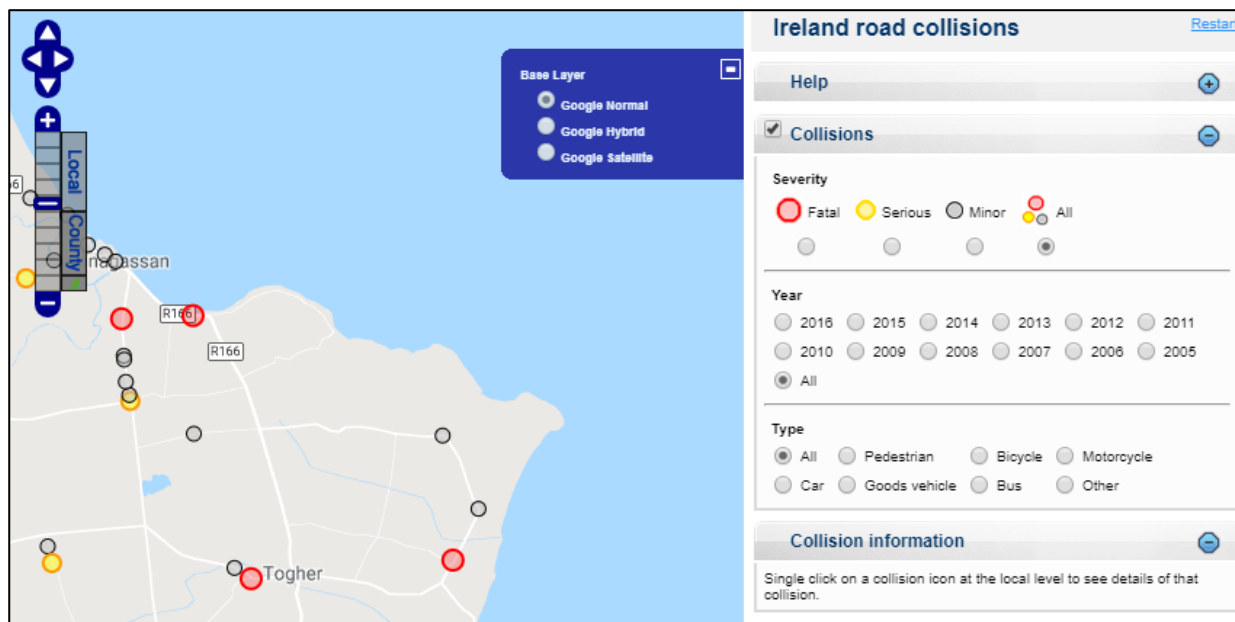


Figure 28-4: Collision Data along the onshore cable route (east of Keenan's Cross).

Although the number of accidents east of Keenan's Cross are low, there were two fatal accidents recorded, at two separate locations. A fatal accident was recorded in 2016 to the west of Togher involving a car, and a fatal accident was recorded on the Coast Road in 2009 involving a motorcycle.

No cluster of incidents were recorded along the onshore cable route, which indicates that there are no issues in relation to reoccurring incidents.

28.7.11 Future baseline scenario

The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (hereafter the EIA Regulations 2018) require that “a description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge” is included within the EIAR.

In the event that the Project is not constructed, an assessment of the future baseline conditions has been carried out and is described within this section.

The local road network connected to the M1 will not change in characteristics in the future as it is primarily a road network serving agricultural lands, scenic drives, businesses, local schools, community facilities and individual residential dwellings. No road developments or upgrades in the area are proposed. Therefore, future baseline conditions are the same as current baseline conditions.

28.7.12 Data validity and limitations

The baseline data presented in this chapter was obtained through undertaking traffic surveys and windscreen surveys across the road network within the Traffic and Transport Study Area. As the characteristics of the local environment have not changed significantly in the years since the surveys were undertaken, the data is therefore considered valid and sufficiently robust for the purpose of this assessment.

There are no limitations in terms of traffic survey information as the surveys were undertaken in a neutral time period where schools were open in full operation and all surveys occurred before all Covid-19 travel restrictions or impacts to travel.

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28.8 Key parameters for assessment

28.8.1 Project design parameters

The project description is provided in volume 2A, chapter 5: Project Description. Table 28-14 outlines the project design parameters that have been used to inform the assessment of potential impacts of the construction, operational and maintenance and decommissioning phases of the Project on traffic and transport.

The final location and layout of the Transition Joint Bay (option 1 or option 2) will be confirmed post consent (design flexibility)(see chapter 5: Project Description). For the purposes of the assessment presented in section 28.10 on traffic and transport, there is no difference in the potential for impacts on traffic and transport between the two options.

Similarly, the final design for the type and siting of outdoor equipment within the proposed onshore substation compound will be confirmed post consent (design flexibility). Variations of this parameter do not impact on the assessment on traffic and transport.

Table 28-14: Project design parameters used for the assessment of potential impacts on traffic and transport.

Potential impact	Phase ¹			Project design parameters	Justification
	C	O	D		
Temporary impact of additional vehicles on existing traffic volumes	✓	✗	✓	<p>Construction phase:</p> <p>Construction traffic (see Table 28-15 and Table 28-16) arising from the following activities over a 27 month programme:</p> <ul style="list-style-type: none"> Mobilisation, pre-construction surveys and site investigations; Trenching and ducting works for onshore cable installation. The majority of the onshore cable installation will be completed by the trenching and ducting method within the existing road corridor. It is noted that works will occur simultaneously at various sections of the road along the onshore cable route and there will not be a continuous impact for the full onshore construction programme period on an individual section of road. The two high pressure gas mains at Richardstown and at Drumcar will also require trenching; Installation of 29 joint bays along the onshore cable route and one transition joint bay at the landfall location- construction of the joint bays will be approximately every 700 m along the onshore cable route from where cables will be pulled through the installed ducts, and jointed. Where the joint bays are within the road (no. 16 locations) and the roadway width would not permit through flow traffic it is proposed that passing bays are constructed adjacent to the joint bay. This will enable controlled through flow of traffic past the joint bay during its construction and the later cable pulling and jointing. Five trenchless crossings (i.e. HDD) are proposed to accommodate the onshore cable route. The Salterstown stream crossing will be completed within the existing road network; and the remaining four (i.e. the M1/Railway crossing, the Port stream crossing at Togher, and the two River Dee crossings (i.e. Drumcar and Richardstown) will divert off the existing road network into adjacent agricultural fields and will 	<p>Construction and decommissioning activities that will result in an increase in traffic volumes on the local road network over the construction and decommissioning programme.</p>
Impact of the temporary works on a live road network					
Impact on local schools if advisory diversion routes are used.					

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Potential impact	Phase ¹			Project design parameters	Justification
	C	O	D		
				<p>require temporary compounds with track access to service the onshore cable installation;</p> <ul style="list-style-type: none"> In addition to the four temporary compounds required at the above HDD locations, three temporary construction compounds will also be required; at the onshore substation site; the landfall; and in a field adjacent to joint bay 17, to accommodate the onshore cable installation; Two temporary working areas will be provided to accommodate a trench crossing of the Port stream at Clonmore, and fibre optic cable connections on the N33; and Construction of substation - The onshore substation will be located in the townland of Stickillin, east of Ardee. <p>Decommissioning phase: Activities will be similar in nature to those outlined for the construction phase but smaller in scale.</p>	
Potential temporary impact of onshore substation access on adjacent national road network	✓	x	✓	<p>Construction / Decommissioning phase: Onshore substation – internal access roads (5 m in width) will connect to a common entrance area off the N33.</p>	One upgraded access from onshore substation
Potential impact of additional vehicles on road network serving a suitable marshalling harbour; and a suitable O&M base.	✓	✓	✓	<p>Construction phase: Construction traffic arising from the following activities over a 15 month programme: The components for the offshore wind farm will be shipped from manufacturing facilities in Europe to a marshalling harbour for pre-assembly prior to being shipped to site. There are suitable ports that are being considered for the Project within the Irish Sea and Celtic Sea, which will be proposed as the marshalling facility. Construction port traffic will be limited to workers daily movements to/from the site and minor, ancillary support equipment being transported in trucks by road. All main components will be transported directly to the harbour by ships. The road network to the expected port facilities will be high quality National/Motorways Roads in Ireland or Primary Roads (in the UK) and will have ample capacity to cater for the expected truck movements.</p> <p>Operational and maintenance phase During the operational phase, it is envisaged that 30 operational personnel will be travelling to office and warehouses from an existing port in County Louth or County Down (with the consents necessary for the proposed activities).</p>	<p>Construction activities that will result in an increase in traffic volumes on the road network over the construction programme.</p> <p>The number of operational personnel required during the operational and maintenance phase.</p>

1: C= Construction, O = Operation, D = Decommissioning

Potential number of construction vehicles - onshore cable traffic

The potential number of construction workers and construction plant will vary across the road network as construction of the onshore cable progresses. For the purpose of this assessment, it is proposed to assess a scenario of two teams working simultaneously at two different work sites along the cable corridor (approximately 10 km apart), which is the expected works methodology highlighted by CTMP. The scale of traffic estimated to be generated by each of the works site is stated below:

- Light Vehicle (LV) Movements Per Day – 16 to and from each works site; and
- Heavy Vehicle (HV) Movements Per Day – 26 to and from each work site.

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Table 28-15 provides a typical daily profile of traffic movements at each works site based on the assumption that the staff arrive in the morning and depart in the evening and the expectation that three HV will arrive at the site in the morning and depart in the evening whilst a HV will arrive and depart the site per hour at a uniform rate throughout the typical working day. These are approximate times and that traffic movements will be in accordance with any grant of planning permission.

Table 28-15: Potential number of trips generated by each work site on the onshore cable works.

Time Period	Light Vehicles		Heavy Vehicles		Total	
	Arrive	Depart	Arrive	Depart	Arrive	Depart
07:00-08:00	8	0	3	0	11	0
08:00-09:00	0	0	1	1	1	1
09:00-10:00	0	0	1	1	1	1
10:00-11:00	0	0	1	1	1	1
11:00-12:00	0	0	1	1	1	1
12:00-13:00	0	0	1	1	1	1
13:00-14:00	0	0	1	1	1	1
14:00-15:00	0	0	1	1	1	1
15:00-16:00	0	0	1	1	1	1
16:00-17:00	0	0	1	1	1	1
17:00-18:00	0	0	1	1	1	1
18:00-19:00	0	8	0	3	0	11
TOTAL	8	8	13	13	21	21

Potential number of construction vehicles - onshore substation construction

Table 28-16 provides a typical daily profile of traffic movements based on the assumption that 40 LV arrive in the morning and depart in the evening and the expectation that four HV will arrive and four HV will depart the site per hour at a uniform rate throughout a 10-hour typical working day.

- LV Movements Per Day – 80;
- HV Movements Per Day – 80; and
- Total Movements Per Day – 160.

Table 28-16: Potential number of trips generated by the onshore substation works.

Time Period	Light Vehicles		Heavy Vehicles		Total	
	Arrive	Depart	Arrive	Depart	Arrive	Depart
07:00-08:00	40	0	0	0	40	0
08:00-09:00	0	0	4	4	4	4
09:00-10:00	0	0	4	4	4	4
10:00-11:00	0	0	4	4	4	4
11:00-12:00	0	0	4	4	4	4
12:00-13:00	0	0	4	4	4	4
13:00-14:00	0	0	4	4	4	4
14:00-15:00	0	0	4	4	4	4
15:00-16:00	0	0	4	4	4	4
16:00-17:00	0	0	4	4	4	4
17:00-18:00	0	0	4	4	4	4

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Time Period	Light Vehicles		Heavy Vehicles		Total	
	Arrive	Depart	Arrive	Depart	Arrive	Depart
18:00-19:00	0	40	0	0	0	40
TOTAL	40	40	40	40	80	80

28.8.2 Measures included in the Project

As part of the Project design process, a number of measures have been proposed to reduce the potential for impacts on the local road network (see Table 28-17). These measures include designed-in and management measures (controls). As there is a commitment to implementing these measures, they are considered inherently part of the design of the Project and have therefore been considered in the assessment presented in section 28.10 below (i.e. the determination of magnitude assumes implementation of these measures). These measures are considered standard industry practice for this type of development.

Table 28-17: Measures included in the Project.

Measures included in the Project	Justification
In accordance with the policy of EirGrid and ESB Networks, in so far as possible, high voltage underground cables shall only be installed under public roads.	The EirGrid functional specification requirement for cables within the road is to facilitate future monitoring and repairs (when necessary) to the cable. One of the key advantages of laying cables under roadways is that there is usually no permanent impact on the environment additional to that caused by the presence of the roadway. When an underground cable is laid under an existing roadway the potential for impact is normally only a short-term temporary impact during the construction phase.
Although onshore cable works will only have a temporary and limited traffic impact during the construction phase, there will still be requirement for localised traffic management (see volume 2A, appendix 5-9: Construction Traffic Management Plan) to facilitate the installation of joint bays, and the trenching/ ducting for the cable. It is confirmed that local access to all dwellings, businesses and schools will be retained throughout the entire works through the provision of passing bays which have been designed into the Project. Please see volume 2A, chapter 5: Project Description for further information on passing bays.	Ensure safe access for localised and through traffic flows during the construction phase.
Sightlines In accordance with TII Publication DN-GEO— 03060 (TII, 2017) are provided for the substation access and temporary access to the site compounds.	Ensure safe access onto N33 and the Regional and Local Road Network.

Table 28-18 below provides a summary of the advisory diversion routes and an approximate timeline of when they will be in place. Diversion routes are illustrated in appendix 5-9: CTMP. These are alternative route options for through traffic if they want to avoid the works area but all road sections along the onshore cable route will be kept open and traffic managed (except for a short 2 day closure on the L2215 and a 2-3 week closure of the L6223 which is not utilised as a true road and of which local access will be provided).

These timelines are subject to change based on the number of construction crews working on site and the detail outlined in the CTMP (which will be developed further by the contractor and agreed with LCC prior to construction).

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Table 28-18: Advisory diversion routes for each road section.

Road section	Joint bay	Diversion route	Advisory diversion route length (approximate)	Approximate time and activities
N33	JB No. 1 – 8	Diversion 1: L-2215 Diversion via L-6246 and L-6227.	4.4 km	2 days - River Dee Crossing.
L-2226 Mullinscross/Drumcar Road	JB No. 9 – 11	Diversion 2 and Diversion 3: Diversion A – R132 Diversion B – L-6287 (Dromin Manor).	A – 4.5 km B – 3.0 km	10 weeks – trenching & ducting, joint bay installation, passing bay installation, 1 no. HDD
	JB No. 11 – 13	Diversion 4: Diversion via the L-6238 Castlethomas/Drumcar Road, L-2239 Mountain View Road and the R132.	7.0 km	6 weeks – trenching & ducting, joint bay installation, passing bay installation, 1 no. HDD
L-6238 Castlethomas /Drumcar Road	Up to JB No. 14	Diversion 5: Diversion with the R132, L-2239 Mountain View Road and the L-6225 /L-2250 through Finvoy Cross.	9.5 km	2 weeks – trenching & ducting, joint bay installation, passing bay installation
	JB No. 14 – 16	Diversion 6: Diversion via the L-2226, R132, L-2239 Mountain View Road and L-6225/L-2250 through Finvoy Cross and Drumcar Road.	6.5 km	7 weeks – trenching & ducting, joint bay installation, passing bay installation, 1 no. HDD
L-2239 Togher Road – Keenan’s Cross to Drumcar Road	JB No. 16 – 17	Diversion 7 and Diversion 8: Diversion via the L-6238 Castlethomas/Drumcar Road, L-2226, L-2250 through Finvoy Cross.	7.9 km	3 weeks – trenching & ducting, joint bay installation, passing bay installation
	JB No. 17 – 19		6.4 km	7 weeks – trenching & ducting, joint bay installation, passing bay installation
L-2239 Togher Road – Keenan’s Cross to Coast Road	JB No. 20 – 22	Diversion 9: Diversion via the L-2250 and the L-6241 Clonmore Road.	3.5 km	8 weeks – trenching & ducting, joint bay installation, passing bay installation
	JB No. 22 – 23	Diversion 10: Diversion via the L6225/L-2250 Finvoy Cross, Martinstown Crossroads, L-2226 through Finvoy Cross.	5.5 km	4 weeks – trenching & ducting, joint bay installation, 1 no. HDD, passing bay installation
	JB No. 23 – 24	Diversion 11: Diversion via the R166, L-6242 (west of Ferrard’s Cross) and the L-6222.	3 km	5 weeks – trenching & ducting, joint bay installation, passing bay installation
	JB No. 25 – 26	Diversion 12: Diversion via the L-6222, L-6242 (east of Ferrard’s Cross) and the L-2221 (Coast Road).	2 km	6 weeks – trenching & ducting, joint bay installation, passing bay installation
L-2221 Coast Road	JB No. 27 – 28	Diversion 13:	5.9 km	5 weeks – trenching & ducting, joint bay

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Road section	Joint bay	Diversion route	Advisory diversion route length (approximate)	Approximate time and activities
		Diversion via L-2221 (Coast Road), L-6222 Ferrard's Cross, L-2240 (Togher Road) and L-2244 (Port Road).		installation, passing bay installation
L-6223 Dunany Road	JB No. 28 to beyond JB No. 29	Diversion 14: Diversion via Dunany Equestrian Centre (local access only).	3 km	3 weeks – trenching & ducting, joint bay installation, passing bay installation
	JB No. 30 (transition joint bay) to Landfall location	Diversion 15: Alternative beach access via Port Beach along L-2244.	N/A	2 weeks – trenching & ducting and joint bay installation

28.8.3 Impacts scoped out of the assessment

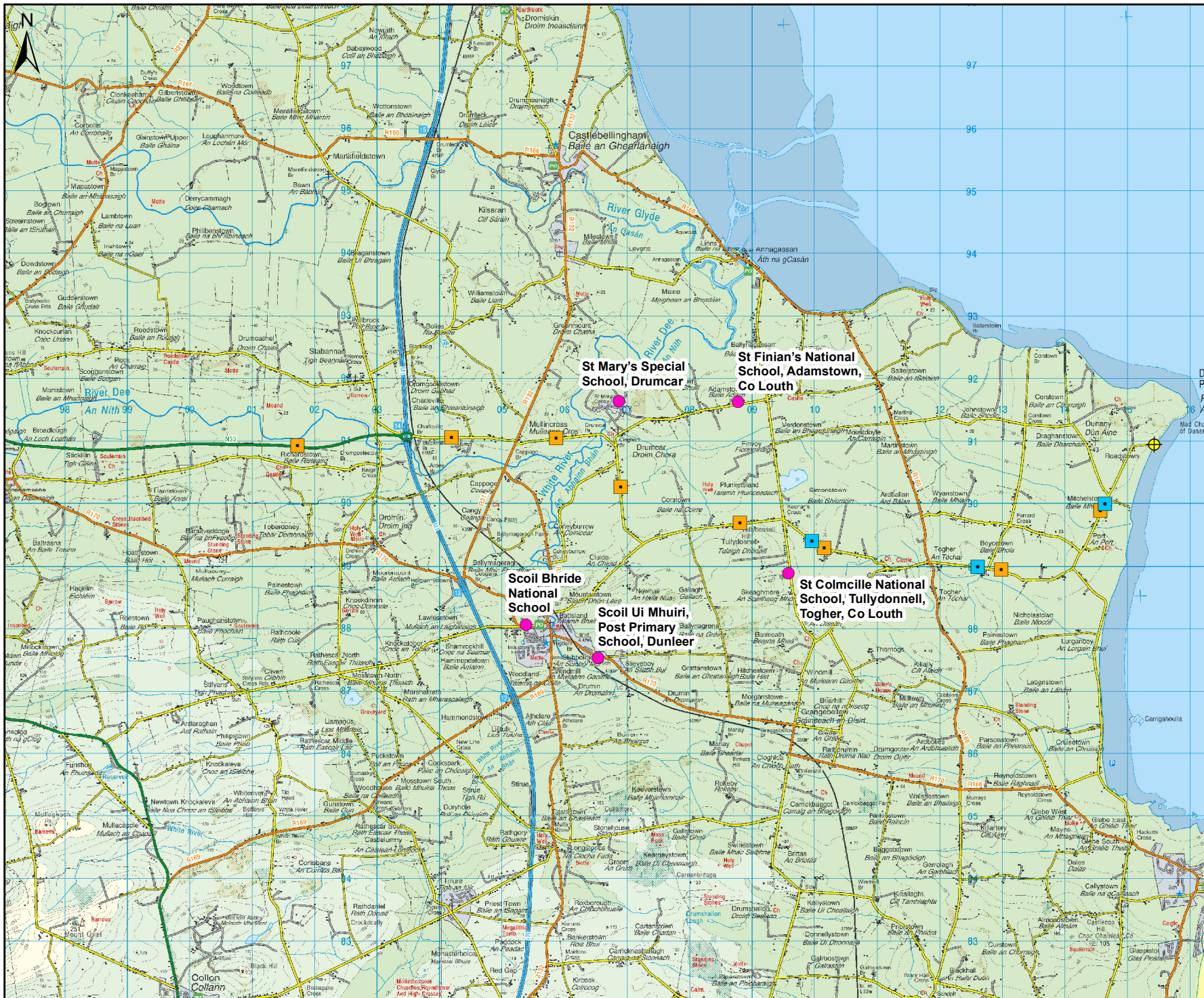
As detailed in section 28.1, the key components of the Project relevant to this chapter, are the construction of the onshore cable and the construction of the onshore substation.

Other transport aspects associated with the Project will include sea-based transporting of components from the assembly port to site but these are assessed in volume 2B, chapter 13: Shipping and Navigation.

On the basis of the baseline environment and the project description outlined in volume 2A, chapter 5: Project Description, a number of impacts have been scoped out of the assessment for traffic and transport. These impacts are outlined, together with a justification for the scoping out decision, in Table 28-19.

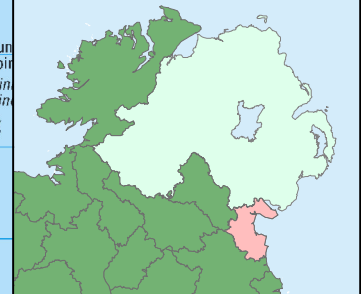
Table 28-19: Impacts scoped out of the assessment for Traffic and Transport.

Potential impact	Justification
Traffic volumes during the operational and maintenance phase for the onshore cable	Once the road is reinstated after the works, operational and maintenance requirements for the onshore cable will be largely corrective, accompanied by infrequent on-site inspections of the onshore cable (approximately every 3 years). There will be limited requirement for operational visits along the cable corridor. Maintenance visits will only occur if a fault is identified on the cable which will be infrequent (<1 occurrence per year). Maintenance visits will occur using a small technicians' van (see volume 2A, chapter 5: Project Description), and the onshore cable will be consistently monitored remotely by EirGrid. Due to the minimal traffic, there will be no impact on the local road network during the operational and maintenance phase..
Traffic volumes during the operational and maintenance phase for the onshore substation	Once the substation is built, operational and maintenance staff will visit the onshore substation to undertake works on a regular basis. Operations at the substation will involve six to eight visits per month by ESB personnel, quarterly site visit inspections and maintenance visits when required. These visits will result in one vehicle (van) requiring access to the onshore substation. On a National Primary route, these operational and maintenance trips are not consistent with daily traffic flow that warrants a full impact assessment.



- Legend**
- Planning Application Boundary
 - + Landfall Location
 - Relevant Schools
- Automatic Traffic Counter Locations**
- September 2019
 - December 2019

Data Sources: OWL, Tailte Éireann.



Client



Project

Oriel Wind Farm Project

Title

**Figure 28-5
Automatic Traffic Counter
Locations and Relevant
Schools within the Surrounding Area**



**West Pier Business Campus,
Dun Laoghaire,
Co Dublin,
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Issue Details

Drawn By: NR	Project No. MDR1520b
Checked By: RG	File Ref:
Approved By: CC	MDR1520bArc3026F02
Scale: 1:82,000 @A4	Projection:
Date: 21/02/2024	ITM (IRENET95) Geographic Co-ordinates: ETRS89

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2. All levels are referred to Ordnance Datum, Mean High.
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28.9 Impact assessment methodology

The TII Traffic and Transport Assessment Guidelines (TII, 2014) provide the framework and best practice guidelines for preparing traffic and transport assessments in the context of assessing and managing travel demand. Although the characteristics of the Project are expected to generate only a temporary travel demand during the construction phase (with an insignificant traffic impact during the other phases), this assessment will take into consideration the format and context recommended in the TII Guidelines especially in relation to assessing the existing conditions, traffic generation and distribution/assignment, road impact, cumulative impact (if any) and environmental mitigation.

28.9.1 Overview

The assessment on traffic and transport has followed the methodology set out in volume 2A, chapter 3: Environmental Impact Assessment Methodology. Taking into consideration the TII Traffic and Transport Assessment Guidelines (2014), it is proposed to examine the impacts outlined in Table 28-14 to assess the impact of the Project on the different sections of the road network.

28.9.2 Impact assessment criteria

Determining the significance of effects is a process that involves defining the magnitude of the impacts and the sensitivity of the receptors. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in volume 2A, chapter 3: Environmental Impact Assessment Methodology.

The definition of magnitude of the impacts and the sensitivity of the receptors will vary based on each impact assessed and are outlined individually in sections 28.10 but all will be based on a high, medium, low and negligible scaling factor.

The significance of the effect upon traffic and transport is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The particular method employed for this assessment is presented in Table 28-20. Where a range of significance of effect is presented the final assessment for each effect is based upon expert judgement. For the purposes of this assessment, any effects with a significance level of slight or less have been concluded to be not significant.

Table 28-20: Matrix used for the assessment of the significance of the effect.

		Magnitude of impact			
		Negligible	Low	Medium	High
Sensitivity of receptor	Negligible	Imperceptible	Imperceptible or slight	Imperceptible or slight	Slight
	Low	Imperceptible or slight	Imperceptible or slight	Slight	Slight or moderate
	Medium	Imperceptible or slight	Slight	Moderate	Moderate or major
	High	Slight	Slight or moderate	Moderate or major	Major or Profound

The definitions for significance in Table 28-20 are as defined in the EPA Guidelines (2022), with 'moderate' and 'major' using the EPA definitions of 'significant' and 'very significant' respectively.

28.10 Assessment of significance

The potential impacts arising from the construction, operational and maintenance and decommissioning phases of the Project are listed in Table 28-14, along with the project design parameters against which each impact has been assessed.

As outlined in volume 2A, chapter 5: Project Description, at the end of the operational lifetime of the Project, it is anticipated that all structures above ground level will be completely removed. Onshore cables would be removed by disconnecting each section at the joint bay and pulling them through the cable ducts, associated

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joint bays would be backfilled, and the onshore substation removed (i.e. electrical infrastructures will be removed, and foundations will be broken up and the onshore substation site reinstated to its original condition or for an alternative use. However, it is not expected that there will be a specific requirement to remove joint bays. For the purposes of this assessment, traffic volumes as outlined for the construction phase (Table 28-15 and Table 28-16) will be the same during decommissioning.

A description of the potential effect on Traffic and Transport caused by each identified impact is given below. For each impact, the magnitude of impact and sensitivity of the receptor are defined.

28.10.1 Temporary impact of additional vehicles on existing traffic volumes

Construction phase

Magnitude of impact

Table 2.1 in the TII Traffic and Transport Assessment Guidelines (TII, 2014) provides a number of thresholds which identify when a Transport Assessment is automatically required. One of these thresholds relates to the percentage impact that a new development would have on the adjoining road network, where it states the following:

'Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road. Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive'.

It is considered standard practice to reference these scale of percentage thresholds (Table 28-21) when assessing the likely long-term operational impact of large-scale trip generators such as resident, educational, health or commercial developments. Although the works associated with this Project will generate only a temporary impact during the construction works, this traffic and transport assessment has taken cognisance of the percentage thresholds, stated in Table 2.1 of the TII Traffic and Transport Assessment Guidelines (TII, 2014) when establishing the potential magnitude of impact.

Table 28-21: Definition of terms relating to the magnitude of impact.

Magnitude of impact	Definition
High	The scale of additional construction traffic exceeds 25% of the background traffic flow on the receiving road network.
Medium	The scale of additional construction traffic is between 10% and 25% of the background traffic flow on the receiving road network
Low	The scale of additional construction traffic is between 5% and 10% of the background traffic flow on the receiving road network.
Negligible	The scale of additional construction traffic is less than 5% of the background traffic flow on the receiving road network.

Sensitivity of the receptor

The sensitivity of the receptors is the classification of the receiving road in the context of assessing the traffic impact generated by the additional construction vehicles. The definition of the scaling factors for the sensitivity of the receptors is outlined in Table 28-22.

Table 28-22: Definition of terms relating to the sensitivity of the receptors.

Sensitivity	Definition
High	Motorway and National Road Network.
Medium	Regional Road Network and local roads connecting a Regional Road to a National Road
Low	Local Road Network with Access to residential and/or commercial developments
Negligible	Local Road with no access to residential and/or commercial developments

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In the context of this assessment, the N33 is considered a high sensitivity receptor as it is a National Road, the L-2226 Mullinscross/Drumcar Road is a medium sensitivity receptor as it is local road connecting a Regional Road to a National Road and all other roads are a low sensitivity receptor.

Significance of the effect

The significance of the effects in the context of assessing the traffic impact generated by the additional construction vehicles is determined by correlating the magnitude of impact and the sensitivity of the receptor as shown previously in Table 28-22. Where a range of significance of effect is presented the final assessment for each effect is based upon expert judgement.

Table 28-23 shows the significance of the effects that the daily construction traffic, from both the onshore substation works and onshore cable installation works, has for each section of the road network with available existing traffic volumes along the onshore cable route. To note the N33 is the only section of the road network that will be impacted by both the substation and onshore cable works.

Table 28-23: Impact of the significance of the effect due to additional construction vehicles on existing traffic volumes.

Road Section	Existing AADT (%HV)	Potential Daily Construction Movements	AADT during works (%HV)	Overall % Impact	Magnitude of Impact	Sensitivity of the Receptors	Significance of the Effects
N33	13,061 (5.8%)	202	13,131 (6.2%)	1.5%	Negligible	High	Slight
L-2226 Mullinscross/ Drumcar Road (west of the R132)	2,396 (3.6%)	42	2,430 (4.7%)	1.7%	Negligible	Medium	Imperceptible
L-2226 Mullinscross/ Drumcar Road (east of the R132)	1,668 (4.2%)	42	1,702 (5.8%)	2.5%	Negligible	Low	Imperceptible
L-6238 Castlethomas/ Drumcar Road	444 (4.6%)	42	478 (10.1%)	8.8%	Low	Low	Imperceptible
L-2239 Togher Road (Drumcar Road to Keenans Cross)	1,325 (1.5%)	42	1,359 (3.5%)	3.1%	Negligible	Low	Imperceptible
L-2240 Togher Road (Keenan's Cross to Coast Road) – west of the R166	765 (1.0%)	42	799 (4.5%)	5.3%	Low	Low	Imperceptible
L-2240 Togher Road (Keenan's Cross to Coast Road) – east of the R166	489 (1.9%)	42	523 (7.1%)	8.1%	Low	Low	Imperceptible
L-2221 Coast Road	248 (1%)	42	282 (10.6%)	14.9%	Medium	Low	Slight

Overall, the significant of the effects due to additional construction vehicles on existing traffic volumes on each of the roads impacted by the onshore cable route and the onshore substation are **imperceptible or slight** at most. Any effects with a significance level of slight or less have been concluded to be not significant.

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Decommissioning phase

As outlined above for the construction phase.

28.10.2 Impact of the temporary works on a live road network

This assessment examines the potential impacts from the trenching and ducting works, joint bay installations and cable pulls, and backfilling works on a live road network. It examines the proposed construction methodology, including the designed-in measures that are proposed to accommodate local accessibility and through traffic flow.

Construction phase

Magnitude of impact

The characteristics of the road network vary in terms of road width, verge spaces, vegetation growth, vertical and horizontal alignment and functionality. Therefore, the magnitude of impact will vary based on required levels of traffic management required for accommodating the temporary road works.

Table 28-24 provides a definition of the terms relating to the magnitude of impact based on required levels of traffic management required for accommodating the temporary road works.

Table 28-24: Definition of terms relating to the magnitude of an impact.

Magnitude of impact	Definition
High	Long Term Road Closures required and significant restrictions to access to residential and commercial developments.
Medium	Short-Medium Road Closures and some limited to access to residential and commercial developments
Low	No Road Closures and no restrictions to access to residential and commercial developments
Negligible	No traffic management measures required.

Sensitivity of the receptor

The sensitivity of the receptors is the classification of the receiving road in the context of assessing the impact of the temporary works. The definition of the scaling factors for the sensitivity of receptor is outlined in Table 28-22.

In the context of this assessment, the N33 is a high sensitivity of receptor as it is a National Road, the L-2226 Mullinscross/Drumcar Road is a medium sensitivity of receptor as it is local road connecting a Regional Road to a National Road and all other roads are a low sensitivity of receptor.

Significance of the effects

The significance of the effects in the context of the impact of the temporary works is determined by correlating the magnitude of the impact and the sensitivity of the receptor as shown previously in Table 28-20.

Table 28-25 shows the significance of the effects that the temporary works has on each section of the road network along the onshore cable route.

Table 28-25: Significance of the effects of the temporary works.

Road Section	Magnitude of Impact	Sensitivity of the Receptor	Significance of the Effect
N33	Low – Due to the strategic importance of the N33 it is proposed to keep two lanes open at all times for traffic flow (with reduced speeds). This will be achieved	High	Slight

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Road Section	Magnitude of Impact	Sensitivity of the Receptor	Significance of the Effect
	through utilising the hard shoulder and a partial lane left lane closure. Temporary lane closures and reduced speeds will be in place along this 5.5 km section of the N33 for approximately 12 months. Temporary traffic management will not be required for the entire length at any time. Works will progress in a linear manner during trenching and ducting and therefore the lane narrowing/reduced speed section will travel along the road with the work.		
L-2226 Mullinscross/ Drumcar Road	Low – Traffic flow will still need to be managed during the joint bay works. Therefore, temporary passing bays will be installed at joint bays No.10/ 11/ 12 and 13 to ensure that accessibility will be maintained at all times. A driver advisory diversion route will be put in place to provide an alternative route option for through traffic flow and to reduce impact on residents and businesses. No temporary road closures will be required. Other activities such as cable pulling, cable jointing and joint bay backfilling and reinstatement will take place later in the works programme but since the passing bays will still be in place it will allow for full accessibility.	Medium	Slight
L-6238 Castlethomas/Drumcar Road	Low – The current road does not have sufficient road width to maintain controlled one-way traffic flow during the joint bay works so temporary passing bays will be installed adjacent to joint bays No.14/ 15/ and 16 to ensure that through flow of traffic will be maintained at all times. A driver advisory diversion route will be put in place to provide an alternative route option for through traffic flow and to reduce impact on residents and businesses. No temporary road closures will be required. Other activities such as cable pulling, cable jointing and joint bay backfilling and reinstatement will take place later in the works programme but since the passing bays will still be in place it will allow for full accessibility with no proposed diversions	Low	Imperceptible
L-2239 Togher Road (Drumcar Road to Keenans Cross)	Low- The current road does not have sufficient road width to maintain unobstructed two-way traffic flow during the joint bay works so temporary passing bays will be installed at joint bays No.16/ 17/ 18/ 19 to ensure that accessibility will be maintained at all times. A driver advisory diversion route will be put in place to provide an alternative route option for through traffic flow and to reduce impact on residents and businesses. Other activities such as cable pulling, cable jointing and joint bay backfilling and reinstatement will take place at the end of the works programme but since the passing bays will still be in place it will allow for full accessibility with no proposed diversions.	Low	Imperceptible
L-2240 Togher Road (Keenan's Cross to Coast Road)	Low – The current road does not have sufficient road width to maintain unobstructed two-way traffic flow during the joint bay works so temporary passing bays will be installed at all the joint bays to ensure that accessibility will be maintained at all times. A driver advisory diversion route will be put in place to provide an alternative route option for through traffic flow and to reduce impact on residents and businesses. During the works in this area, access to the shops and the pub at the crossroads with the R166 will be maintained. However, it is likely that a Stop/Go arrangement or temporary traffic lights will be put in place during the works at this intersection. The Port Stream watercourse on the Togher Road is located just	Low	Imperceptible

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Road Section	Magnitude of Impact	Sensitivity of the Receptor	Significance of the Effect
	before joint bay No.23. This crossing is proposed to be HDD. Other activities such as cable pulling, cable jointing and joint bay backfilling and reinstatement will take place later in the works programme but since the passing bays will still be in place it will allow for full accessibility with no proposed diversions		
L-2221 Coast Road	<p>Low – The current road does not have sufficient road width to maintain unobstructed two-way traffic flow so a temporary passing bay will be installed at joint bays No 27/ 28 to ensure that accessibility will be maintained at all times.</p> <p>A driver advisory diversion route will be put in place to provide an alternative route option for through traffic flow and to reduce impact on residents and businesses.</p> <p>Other activities such as cable pulling, cable jointing and joint bay backfilling and reinstatement will take place later in the programme. However, the passing bays will be in place and therefore no further diversions will be required.</p>	Low	Imperceptible
L-6223 Dunany Road	<p>Medium – The initial works on this section of road will be the installation of joint bay No.29 and the transition joint bay, and the trenching and ducting for the cable. The current road does not have sufficient road width to maintain unobstructed two-way traffic flow during the joint bay works so temporary passing bays will be installed at joint bay No 29 to ensure local access. However, there will be a requirement for temporary roads diversions to facilitate local access while passing bays are being constructed.</p> <p>Other activities such as cable pulling, cable jointing and joint bay backfilling and reinstatement will take place for a further 3-week period at the end of the works programme but since the passing bay will still be in place it will allow for full local access.</p>	Low	Slight

Overall, the significance of the effects of the temporary works on the local roads are **imperceptible or slight** at most during construction phase. Any effects with a significance level of slight or less have been concluded to be not significant.

Decommissioning phase

As outlined above for the construction phase.

28.10.3 Impact on local schools

Although there are no schools directly impacted by the onshore cable route they are located in the wider hinterland and with advisory temporary diversions in place there could be potential additional traffic flows outside the schools. The following are the schools that are located in the surrounding hinterland:

- Scoil Bhríde National School, Dunleer;
- Scoil Uí Mhuirí, Post Primary School, Dunleer;
- St Mary's Special School, Drumcar;
- St Finian's National School, Adamstown, Co Louth; and
- St Colmcille National School, Tullydonnell, Togher, Co Louth.

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Construction phase

Magnitude of impact

The magnitude of impacts is scaled based on the close proximity school in relation to the advisory temporary diversions. Table 28-26 provides a definition of the terms relating to the magnitude of impact based on the close proximity school in the context of the routes associated with the advisory temporary diversions.

Table 28-26: Definition of terms relating to the magnitude of an impact.

Magnitude of impact	Definition
High	School located adjacent to the advisory temporary diversion routes where there will be a direct impact on school set down areas and car parking facilities
Medium	School located adjacent to the advisory temporary diversion routes but there is no impact on school set down areas and car parking facilities
Low	School located within 500 m of to the advisory temporary diversion routes associated with the advisory temporary diversions
Negligible	School located greater than 500 m of the routes associated with the advisory temporary diversions

Sensitivity of the receptor

The sensitivity of the receptors is the classification of the school in the context of the sensitivity of the student profile and level of traffic management facilities at the school. The definition of the scaling factors for the sensitivity of receptor is outlined in Table 28-27.

Table 28-27 Definition of terms relating to the sensitivity of the receptor.

Sensitivity	Definition
High	National School with Special Needs
Medium	National School
Low	Post Primary School
Negligible	Third Level Educational Facility

Significance of the effect

The significance of the effects in the context of the potential impact on local schools is determined by correlating the magnitude of the impact and the sensitivity of the receptor. Where a range of significance of the effects is presented, the final assessment for each effect is based upon expert judgement.

Table 28-28 shows the significance of the effect that the advisory temporary diversions could have on each local school.

Table 28-28: Significance of the effects of advisory temporary diversions on local schools.

School	Magnitude of impact	Sensitivity of the receptor	Significance of the effect
Scoil Bhríde National School, Dunleer	Low	Medium	Slight
Scoil Uí Mhuirí, Post Primary School, Dunleer	Negligible	Low	Imperceptible
St Mary's Special School, Drumcar	Low	High	Slight
St Finian's National School, Adamstown	Medium	Medium	Moderate
St Colmcille National School, Tullydonnell, Togher	Medium	Medium	Moderate

Overall, the significance of the effects of the advisory temporary diversions on the three schools in Dunleer village are considered **imperceptible or slight** at most during construction phase. The car parking set down

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and school facilities associated with St Mary’s Special School, Drumcar is located approximately 400 m north of the L-2226 Drumcar Road. Therefore, the significance of the effects of the advisory temporary diversions is considered slight (due to the distance away from the road). Any effects with a significance level of slight or less have been concluded to be not significant.

The significance of the effects of the advisory temporary diversions on St Finian’s National School and the St Colmcille National School are considered **moderate** during the construction phase.

Decommissioning phase

As outlined above for the construction phase.

28.10.4 Onshore substation access

The substation access from the N33 will be upgraded so there will be construction vehicles turning into and out of the access during the construction works and also on ad-hoc basis during the operational and maintenance phase.

Construction phase

Magnitude of impact

The magnitude of impact is scaled based on the impact of the access on traffic flow on the N33 and the proposed sightlines for vehicles accessing and egressing the onshore substation site.

Table 28-29 provides a definition of the terms relating to the magnitude of impact based on the proposed Onshore substation access.

Table 28-29: Definition of terms relating to the magnitude of an impact.

Magnitude of impact	Definition
High	Vehicles turning in and out of the onshore substation access fundamentally impacts the operating performance of the traffic flow on the N33 through the need for a full-time signalised junction. There is limited sight visibility to and from the onshore substation access.
Medium	Vehicles turning in and out of the onshore substation access requires significant temporary traffic management control. There is reduced sight visibility to and from the onshore substation access.
Low	Vehicles turning in and out of the onshore substation access requires an element of temporary traffic management control. Either the sight visibility to or from the onshore substation access is below full standards.
Negligible	Vehicles can turn in and out of the onshore substation access without the need for temporary traffic management control with no fundamental impact on the operating performance of the traffic flow on the N33. Sight visibility to and from the onshore substation access is in accordance with standards.

Sensitivity of the receptor

The sensitivity of the receptors is the classification of the adjoining road. The definition of the scaling factors for the sensitivity of receptor is outlined in Table 28-22.

In the context of this assessment, the N33 is a high sensitivity of receptor as it is a National Road.

Significance of the effect

The significance of the effects in the context of the onshore substation access is determined by correlating the magnitude of the impact and the sensitivity of the receptor. Where a range of significance of the effects is presented, the final assessment for each effect is based upon expert judgement.

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Table 28-30 shows the significance of the effect that the onshore substation access could have on the adjacent road network.

Table 28-30: Significance of the effects of the onshore substation access.

Road adjoining the substation access	Magnitude of Impact	Sensitivity of the Receptor	Significance of the Effect
N33	Low	High	Slight

Overall, the significance of the effects of the onshore substation access is considered to be **slight** during construction phase. Any effects with a significance level of slight or less have been concluded to be not significant.

Decommissioning phase

As outlined above for the construction phase.

28.10.5 Port traffic

During the construction phase, the components for the offshore wind farm will be fabricated at a number of manufacturing sites across Europe or elsewhere, and shipped to a suitable marshalling harbour for pre-assembly prior to being shipped directly to the offshore wind farm area. Suitable ports considered for the Project within the Irish Sea and Celtic Sea include those with existing consents (e.g. Belfast Port or Mostyn Harbour (Wales)) and ports with proposed development plans for offshore wind pre-assembly facilities (e.g. Rosslare Europort and Port of Cork).

Construction port traffic will be limited to workers daily movements to/from the site and minor, ancillary support equipment being transported in trucks by road. All main components will be transported directly to the harbour by ships. The road network to the expected port facilities will be high quality National/Motorways Roads in Ireland or Primary Roads (in the UK) and will have ample capacity to cater for the expected truck movements.

During the operational and maintenance phase, activities will be planned, controlled and monitored from an onshore O&M base located at an existing harbour in County Louth or County Down. Three harbours (Kilkeel, Warrenpoint and Greenore) have suitable facilities and are approximately 1 hour sailing time from the offshore wind farm area.

Construction phase

Magnitude of impact

The magnitude of impacts is scaled based on the impact of construction port traffic which will be workers travelling to/from a suitable site and minor and ancillary support equipment being transported in trucks by road.

Table 28-31 provides a definition of the terms relating to the magnitude of impact of construction port traffic.

Table 28-31: Definition of terms relating to the magnitude of an impact.

Magnitude of impact	Definition
High	Road network does not have sufficient width and capacity to accommodate the ancillary support equipment being transported in trucks.
Medium	The road network has pinch points that will restrict the transportation of the ancillary support equipment being transported in trucks.
Low	The road network has adequate width and capacity to accommodate the ancillary support equipment being transported in trucks but there is a requirement to travel through towns and villages.

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Magnitude of impact	Definition
Negligible	The road network has adequate width and capacity with limited /no impact on towns/villages.

Sensitivity of the receptor

The sensitivity of the receptors is the classification of the roads. The definition of the scaling factors for the sensitivity of receptor is outlined in Table 28-32.

Table 28-32: Definition of terms relating to the sensitivity of the receptor.

Sensitivity	Definition
High	Motorway and National Road Network.
Medium	Regional Road Network and local roads connecting a Regional Road to a National Road
Low	Local Road Network with Access to residential and/or commercial developments

The road network to the expected port facilities will be high quality National/Motorways Roads in Ireland or Primary Roads (in the UK).

Significance of the effect

The significance of the effects in the context of the port access is determined by correlating the magnitude of the impact and the sensitivity of the receptor. Where a range of significance of the effects is presented, the final assessment for each effect is based upon expert judgement.

Table 28-33 shows the significance of the effects that the construction port traffic could have on the adjacent road network.

Table 28-33: Significance of the effect on port access.

Road adjoining the onshore substation access	Magnitude of Impact	Sensitivity of the Receptor	Significance of the Effect
M1/N1	Negligible	High	Slight
R173	Negligible	Medium	Imperceptible
R175	Negligible	Medium	Imperceptible

Overall, the significance of the effects of construction port traffic is considered to be **imperceptible or slight** at most during construction phase. Any effects with a significance level of slight or less have been concluded to be not significant.

Operational and maintenance phase

It is envisaged that 30 operational personnel could be generated by the operational and maintenance personnel travelling to offices and warehouses at a suitable O&M base (i.e. an existing port in County Louth or County Down). The magnitude of impact associated with this scale of traffic demand is negligible in the context of traffic levels on Motorway/National and Regional roads. Although the sensitivity of these receptors of these roads are high and medium respectively due to the negligible magnitude of impact it is considered that the significance of the effects is **slight** at most during operational and maintenance phase. Any effects with a significance level of slight or less have been concluded to be not significant.

Decommissioning phase

As outlined above for the construction phase.

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28.10.6 Mitigation and residual effects

Measures included as part of the Project are outlined in section 28.8.2.

The significance of effects of the advisory temporary diversions on St Finian's National School and the St Colmcille National School during the construction and decommissioning phase are considered Moderate (see section 28.10.3) and as such will require mitigation. The mitigation measure proposed is as follows:

- It is recommended that discussions will be had with the schools to determine if there is any impact on bus routes/access. The sequencing of the works could be altered to ensure that works take place during school holidays.

Once the aforementioned mitigation measure is implemented, it is predicted that the magnitude of the predicted impacts based on the close proximity school in the context of the routes associated with the advisory temporary diversions will be low. The sensitivity of the receptor is still predicted to be medium but crucially due to the mitigation the significance of the effect is now considered to be slight, which is not significant in EIA terms.

28.10.7 Future monitoring

No monitoring to test the predictions made within the impact assessment is considered necessary.

28.11 Cumulative Impact Assessment (CIA)

28.11.1 Methodology

The Cumulative Impact Assessment (CIA) takes into account the impact associated with the Project together with other projects. The projects selected as relevant to the CIA presented within this chapter are based upon the results of a screening exercise (see volume 2A, appendix 3-1: CIA Screening Annex). Each project has been considered on a case-by-case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

The approach to CIA examines the effects of the Project alongside the following projects if they fall within the Zone of Influence (ZoI) for Traffic and Transport (see Figure 28-6):

- Other projects with consent but not yet constructed/construction not completed;
- Other projects in a consent application process;
- Other projects currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact; and
- Projects that have a Maritime Area Consent under the Maritime Area Planning Act (2021) (i.e. wind farm projects designated as 'Relevant Projects' or 'Phase 1 Projects').

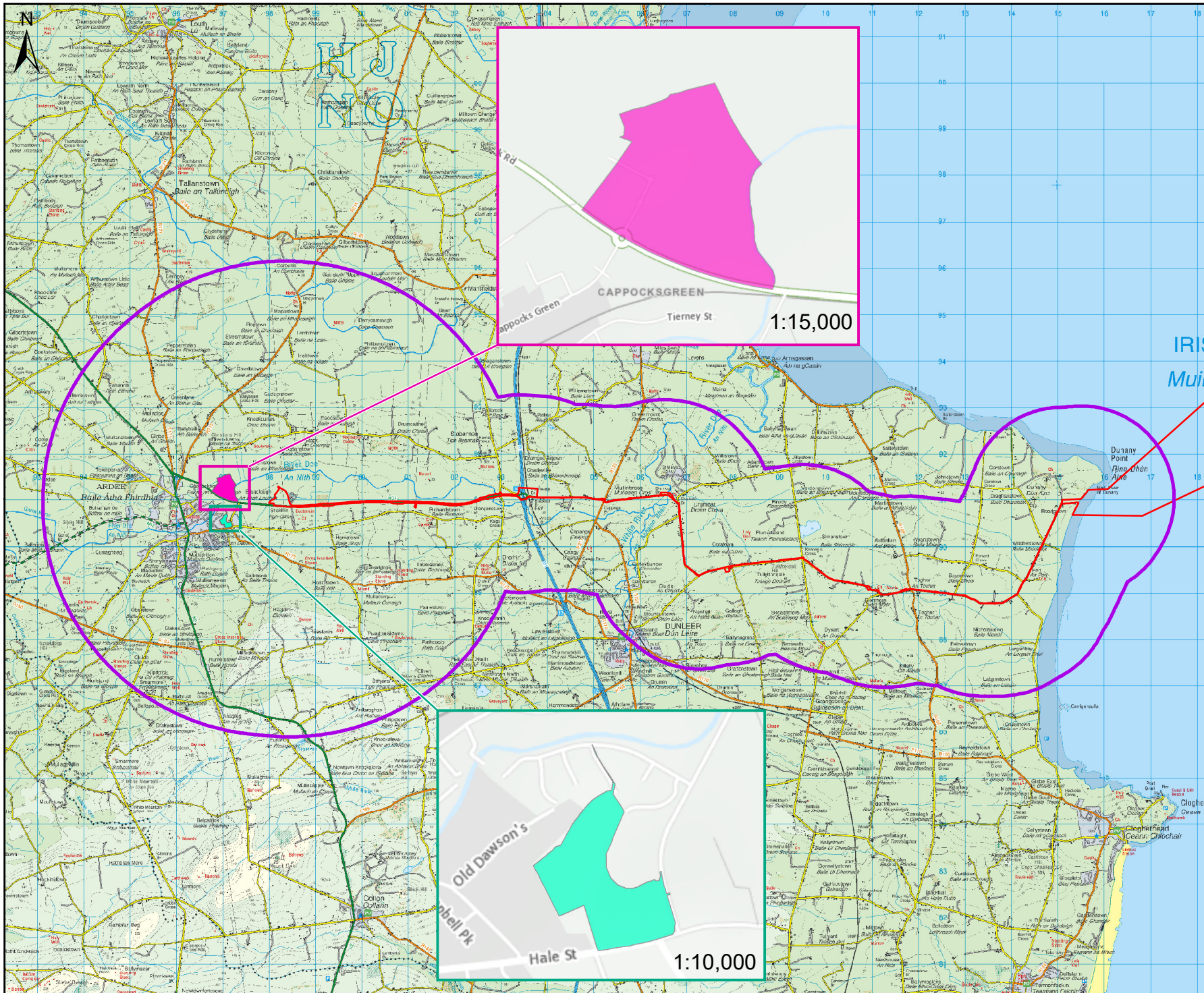
The specific projects screened into this CIA, are outlined in Table 28-34.

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Table 28-34: List of other projects considered within the CIA.

Project	Status	Distance from onshore cable route/onshore substation (approximate km)	Description of Project	Dates of construction ¹ (if applicable)	Dates of operation ¹ (if applicable)	Overlap with Project
A light industrial / business park of 43,418 sqm (gross floor area), consisting of 29 no. light industrial/ warehouse buildings	Consented	1.1-1.5 km	A new industrial park	Unknown, consent granted in 2020 for ten years	Unknown	There is potential for cumulative effects during the construction phase of the Project and the construction phase of the industrial/ business park as traffic associated with both projects could use the N33.
Permission for development to consist of the provision of a total of 122 no. residential units along with provision of a creche	Planning (consented but under appeal to An Bord Pleanála)	1.0-1.3 km	A new residential development	Unknown (awaiting planning decision)	Unknown	There is potential for cumulative effects during the construction phase of the Project and the construction phase of the residential development as traffic associated with both projects could use the R132.

¹= Assumes that programme for construction/ operation may overlap with the Project.

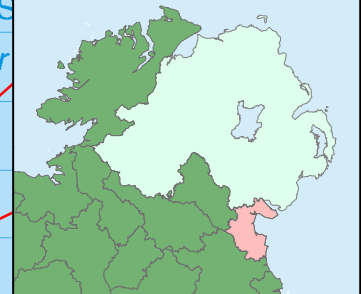


Legend

- Planning Application Boundary
- Cumulative Traffic and Transport Study Area
- Industrial/ business park
- Residential development

Projects

Data Sources: OWL, Tailte Éireann, Louth CC



Client

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OFFSHORE RENEWABLE ENERGY

Project

Oriol Wind Farm Project

Title

**Figure 28-6:
Other projects screened
into the cumulative assessment**

rps West Pier Business Campus,
Dun Laoghaire,
Co Dublin,
Ireland.

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Issue Details	
Drawn By: NR	Project No. MDR1520b
Checked By: RG	File Ref:
Approved By: CC	MDR1520bArc3138F01
Scale: 1:110,000 @A4	Projection:
Date: 21/02/2024	ITM (IRENET95) Geographic Co-ordinates: ETRS89

NOTE: 1. This drawing is the property of RPS Group Ltd. It is a confidential document and must not be copied, used, or its contents divulged without prior written consent.
2. All levels are referred to Ordnance Datum, Malin Head.
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Table 28-35 presents the relevant project design parameters from Table 28-14, which are used to assess the potential cumulative impact of the Project with the other projects identified in Table 28-34 (where information is available).

Table 28-35: Project design parameters considered for the assessment of potential cumulative impacts on traffic and transport.

Potential impact	Phase			Project design parameters	Justification
	C	O	D		
Temporary Impact of additional vehicles on existing traffic	✓	✗	✗	Project design parameters as described for the Project (see Table 28-14) assessed cumulatively with the following other projects: <ul style="list-style-type: none"> • A light industrial / business park; and • A residential development. 	Potential overlap of construction phases with the Project.

28.11.2 Assessment of significance

A description of the significance of cumulative effects upon Traffic and Transport arising from the identified impact is given below.

Temporary impact of additional vehicles on existing traffic volumes

Construction phase (industrial/ business park)

Magnitude of impact

The N33 road will be used by this proposed development during the construction and operational phases and the N33 at this location overlaps with sections of the Traffic and Transport Study Area. The EIAR submitted as part of the planning application for the proposed industrial park contained projected traffic volumes of these works. In chapter 12 of the EIAR submitted as part of the planning application, section 12.32 states that the forecasted peak daily traffic generation arising during the construction works (over a 7 year period) will be 200 vehicles, with 80, on the N33 east of the site. As estimated as part of the Project, the Project could generate 202 trips during peak construction on the N33. Taking into consideration the cumulative impact of the proposed industrial park it is considered that a combined 402 trips could be generated. However, the magnitude of impact will be negligible in the context of the scale of daily traffic flow on the N33.

Sensitivity of the receptor

The sensitivity of the receptor is defined through the vulnerability of the receptor, the recoverability of the receptor, and the importance of receptor in the context of national, regional, and localised scale. As roads are categorised as national, regional, and local the simplistic way is to define the receptors in terms of these categories. It is considered that the N33 would be a high receptor during the construction phase.

Significance of the effect

It is considered that the cumulative impact of the Project and the traffic associated with the industrial/ business park will be **slight**, which is not significant in EIA terms.

Construction phase (residential development)

Magnitude of impact

The N33 road will be used by this proposed development during the construction and operational and maintenance phases, and the N33 at this location overlaps with sections of the Traffic and Transport Study Area. The transport assessment submitted as part of the planning application for the proposed industrial park contained projected traffic volumes of these works. In section 1.7.1 of the transport assessment, it states that the forecasted peak hour traffic generation will have negligible impact on the N33. The traffic generated

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during the Project construction stage on the N33 will be mainline traffic flow so it will not be impacted by traffic turning into Castleguard Road. Therefore, the magnitude of impact will be negligible in the context of the scale of daily traffic flow on the N33.

Sensitivity of the receptor

The sensitivity of the receptor is defined through the vulnerability of the receptor, the recoverability of the receptor, and the importance of receptor in the context of national, regional, and localised scale. As roads are categorised as national, regional, and local the simplistic way is to define the receptors in terms of these categories. It is considered that the N33 would be a high receptor during construction phase.

Significance of the effect

It is considered that the cumulative impact of the Project and the traffic associated with the construction of the proposed residential development will be **slight**, which is not significant in EIA terms.

28.12 Transboundary effects

The potential effects of the Project on traffic and transport during the construction phase are confined to the local road network within the Traffic and Transport Study Area (see Figure 28-1). Therefore, there is no potential for significant transboundary effects from the Project on traffic and transport upon the interests of the UK or other EEA States.

There is potential for traffic and transport effects arising from construction related port traffic and traffic associated with the operational and maintenance base as identified in section 28.10.5.

It is proposed that a suitable port within the Irish Sea and Celtic Sea will be used for pre-assembly of equipment prior to being shipped to site. This will result in limited project staff traffic and support equipment being transported in trucks by road. Overall, the significance of the effects of construction port traffic is considered to be slight at most during the construction phase. Although components for the offshore wind farm will be shipped to site from port facilities within Ireland, from Europe or elsewhere, there will be no transboundary effects from the Project on traffic and transport upon the interests of the UK or other EEA States.

During the operational maintenance, it is envisaged that 30 operational personnel could be generated by the operational and maintenance personnel travelling to offices and warehouses at a suitable O&M base (i.e. an existing port in County Louth or County Down). However, effects are not significant and therefore there will be no transboundary effects from the Project on traffic and transport upon the interests of the UK or other EEA States.

28.13 Interactions

A description of the likely inter-related effects arising from the Project on Traffic and Transport is provided in volume 2C, chapter 32: Interactions.

28.14 Summary of impacts, mitigation and residual effects

Information on Traffic and Transport was established from desk studies and site-specific surveys. Table 28-36 presents a summary of the potential impacts, mitigation measures and residual effects in respect to Traffic and Transport. Table 28-37 presents a summary of the potential cumulative impacts, mitigation measures and residual effects.

The impacts assessed include:

- Temporary Impact of the additional vehicles on existing traffic volumes;
- Impact of the temporary works on a live road network;
- Impact on local schools;

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- Onshore substation access; and
- Port traffic.

The significance of the effects due to additional construction vehicles on existing traffic volumes on roads impacted by the onshore cable route and the onshore substation are slight at most during the construction and decommissioning phases. The significance of the effects of the temporary works on the live road network are slight at most during the construction and decommissioning phases.

The significance of the effects of the advisory temporary diversions on local schools is slight at most during the construction phase. However, the significance of the effects of the advisory temporary diversions on St Finian's National School and the St Colmcille National School are considered moderate during the construction and decommissioning phases and as such will require mitigation (see section 28.10.6).

The significance of the effects of the onshore substation access is considered to be slight at most during the construction and decommissioning phases. The significance of the effects of construction port traffic is considered to be slight at most during the construction phase and decommissioning phases.

The cumulative impacts assessed include: temporary impact of additional vehicles on existing traffic volumes. The cumulative impact is assessed to be of slight significance.

No potential transboundary impacts have been identified in regard to effects of the Project.

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Table 28-36: Summary of potential environment effects, mitigation and monitoring.

Description of impact	Phase			Measures included in the Project	Magnitude of impact	Sensitivity of receptor	Significance of effect	Further measures	Residual effect	Proposed monitoring
	C	O	D							
Temporary Impact of Additional Vehicles on Existing Traffic Volumes	✓	*	✓	Implementation of CTMP (see volume 2A, appendix 5-9: Construction Traffic Management Plan)	C/D: Negligible (N33, L-2226 east and west of the R132, L-2239) C/D: Low (L-6238 and L-2240 east and west of the R166) C/D: Medium (L-2221)	C/D: Low (L-2226 east of the R132, L-6238, L-2239, L-2240 east and west of the R166, L-2221) C/D: Medium (L-2226, west of the R132) C/D: High (N33)	C/D: Imperceptible (L-2226 east and west of the R132, L-6238, L-2239, L-2240 east and west of the R166) C/D: Slight (N33 and L-2221)	None	None	None
Impact of the Temporary Works on a live road network	✓	*	✓	Implementation of CTMP (see volume 2A, appendix 5-9: Construction Traffic Management Plan)	C/D: Low (N33, L-2226, L-6238, L-2239, L-2240, L-2221) C/D: Medium (L-6223)	C/D: Low (L-6238, L-2239, L-2240, L-2221, L-6223) C/D: Medium (L-2226) C/D: High (N33)	C/D: Imperceptible (L-6238, L-2239, L-2240, L-2221) C/D: Slight (N33, L-2226, L-6223)	None	None	None
Impact on Local Schools	✓	*	✓	Implementation of CTMP (see volume 2A, appendix 5-9: Construction Traffic Management Plan)	C/D: Negligible (Scoil Uí Mhuirí, Post Primary School, Dunleer) C/D: Low (Scoil Bhríde National School, Dunleer, St Mary's Special School, Drumcar) C/D: Medium (St Finian's National School, Adamstown, St Colmcille National School, Tullydonnell, Togher)	C/D: Low (Scoil Uí Mhuirí, Post Primary School, Dunleer) C/D: Medium (Scoil Bhríde National School, Dunleer, St Finian's National School, Adamstown, St Colmcille National School, Tullydonnell, Togher) C/D: High (St Mary's Special School, Drumcar)	C/D: Imperceptible (Scoil Uí Mhuirí, Post Primary School, Dunleer) C/D: Slight (Scoil Bhríde National School, Dunleer, St Mary's Special School, Drumcar) C/D: Moderate (St Finian's National School, Adamstown, St Colmcille National School, Tullydonnell, Togher)	Where the significance of the effect is moderate on local schools, it is recommended that discussions are had with the schools to determine if there is any impact on bus routes/access. The sequencing of the works could be altered to ensure that works take place during school holidays.	Slight (St Finian's National School, Adamstown, St Colmcille National School, Tullydonnell, Togher)	None

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Substation Access	✓	*	✓	Upgrade of the existing access onto the N33.	C/D: Low	C/D: High	C/D: Slight	None	None	None
Port Traffic	✓	✓	✓	None	C/D: Negligible O: Negligible	C/D: Medium (R173, R175) C/D: High (M1/N1) O: Medium (R173, R175) O: High (M1/N1)	C/D: Imperceptible (R173, R175) C/D: Slight (N1/M1) O: Imperceptible (R173, R175) O: Slight (N1/M1)	None	None	None

Table 28-37: Summary of potential cumulative environment effects, mitigation and monitoring.

Potential impact	Phase			Measures included in the Project	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional measures	Residual effect	Proposed monitoring
	C	O	D							
Temporary Impact of Additional Vehicles on Existing Traffic Volumes	✓	*	*	Implementation of CTMP (see volume 2A, appendix 5-9: Construction Traffic Management Plan)	Negligible	High	Slight	None	None	None

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