



Perigus Energy Ireland Midco Limited

Proposed Greenhills Renewable Energy Park, County Cork

Planning and Environmental Report

RSK Project No. 605444

AUGUST 2026



RSK Ireland Ltd (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

AUGUST 2026

CONTENTS

1	TRAFFIC AND TRANSPORT	1
1.1	Introduction	1
1.2	Existing Public Road Network	4
1.3	Site Access	6
1.4	Existing Road and Junction Network.....	21
1.5	Pre-construction Works Requirements.....	32
1.6	Construction, Operation & Decommissioning Traffic Volumes	36
1.7	Proposed Mitigation Measures.....	43
1.8	Residual Impacts	45
1.9	Conclusion on Traffic and Transport	46

TABLES

Table 1.1:	HGV Traffic Volumes During Construction	37
Table 1.2:	Construction Traffic Profile – Peak Construction Period.....	38

FIGURES

Figure 1.1:	Site Location	2
Figure 1.2:	Site Layout	3
Figure 1.3:	Public Road Network	5
Figure 1.4:	Site Entrance No.1.....	7
Figure 1.5:	Site Entrance No.2.....	8
Figure 1.6:	Site Entrance No.3.....	9
Figure 1.7:	Site Entrance No.4.....	10
Figure 1.8:	Site Entrance No.5.....	11
Figure 1.9:	Site Entrances No.6 and 7	12
Figure 1.10:	Site Entrances No.8 and 9	13
Figure 1.11:	Site Entrance No.10.....	14
Figure 1.12:	Site Entrance No.11.....	15
Figure 1.13:	Construction Haul Routes	17
Figure 1.14:	Abnormal Load Haul Route from the R634	19
Figure 1.15:	Site Entrance 1 – Construction Signage.....	20
Figure 1.16:	R634 / L7829 Junction	21
Figure 1.17:	R634 / L3803 Junction	22
Figure 1.18:	L7829 / L7806 Junction	22
Figure 1.19:	L7829 / L7828 Junction	23
Figure 1.20:	L7829 / L3808 Junction	23
Figure 1.21:	L3808 / L38081 Junction	24
Figure 1.22:	L3808 / L7891 Junction	24
Figure 1.23:	L3808 / L7828 Junction	25
Figure 1.24:	Cable Laying in Public Roads.....	30
Figure 1.25:	Temporary Traffic Management	31

Figure 1.26: Temporary Diversions During Cable Laying in Public Roads.....	32
Figure 1.27: Signage for vulnerable road users.....	34
Figure 1.28: Transport For Ireland (TFI) Regional Public Transport Map	34
Figure 1.29: Typical Directional Signage at Site Entrances.....	35
Figure 1.30: Traffic Analysis R634 / L7829 Junction	41

1 TRAFFIC AND TRANSPORT

1.1 Introduction

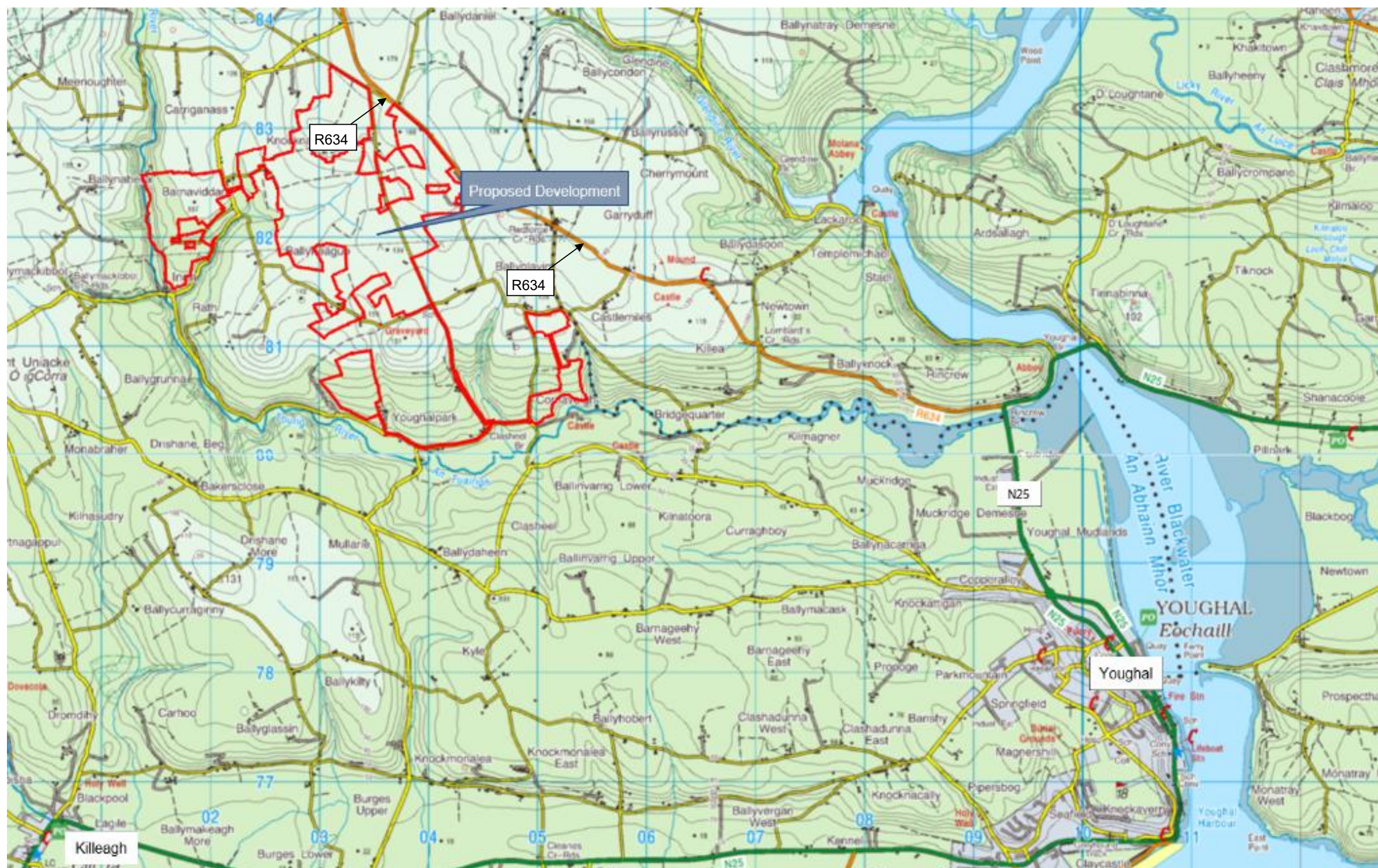
The Proposed Development (Greenhills Renewable Energy Park) comprises a solar farm, battery energy storage system, 220kV AIS substation and loop-in grid connection in the townlands of Knocknagappagh, Barnaviddane, Ballyneague, Ballydaniel, Youghalpark, Ballydaheen and Cornaveigh in County Cork.

The Proposed Development is adjacent to the R364 road approximately 7km north-west of the settlement of Youghal and 6.5km north-east of Killeagh, Co. Cork. The proposed site area is 320 ha and the Proposed Development will comprise the following:

- Solar array
- Inverter/transformer stations
- New site entrances and access tracks
- All ancillary development such as drainage infrastructure, security fencing, CCTV, weather stations and storage containers for spare parts.
- Temporary construction compound(s)
- Landscaping
- Biodiversity enhancement
- Battery energy storage system (BESS)
- 220kV substation & loop in grid connection

The Location of the Proposed Development is shown on Figure 1.1. The layout of the Proposed Development is shown on Figure 1.2.

Figure 1.1: Site Location



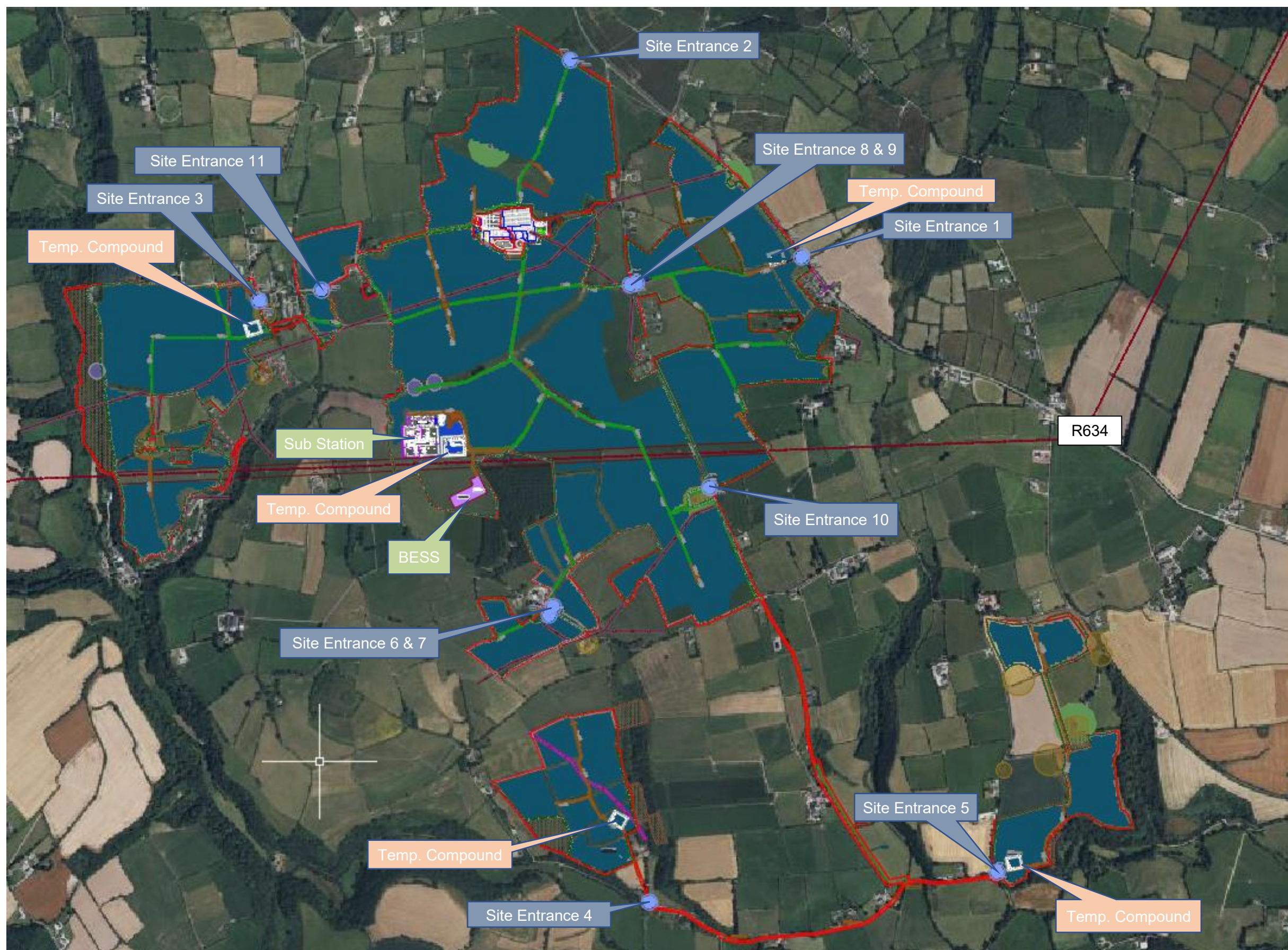


Figure 1.2: Site Layout

1.2 Existing Public Road Network

1.2.1 Existing Roads in the vicinity of the Proposed Development

The Site of the Proposed Development is served primarily by the N25 national primary road, N72 national secondary road, R634 regional road and the L7829, L7806, L3803, L38032, L7828 and L3808 local roads. The public road network in the vicinity of the Proposed Development is shown on Figure 1.3.



Figure 1.3: Public Road Network

1.3 Site Access

1.3.1 Proposed Development Site Entrances

Access to the Proposed Development will be from 11 No. site entrance points located on the regional and local road network. Site access 1 will be located on the R634 regional road, site access 2 will be located on the L7806 local road, site access 3 will be located on the L3803 local road, site access 4 and 5 will be located on the L3808 local road, site access 6 and 7 will be located on the L7828 local road, site access 8, 9 and 10 will be located on the L7829 local road and site access 11 will be located on the L38032 local road. The location of the site entrance points to the Proposed Development are shown on Figure 1.2.

The site entrance points will be constructed to withstand HGV wheel loading and to facilitate the turning movements of HGV vehicles which will be required to visit the Site during the construction period. Site entrance 1 will be constructed with a temporary overrun area to accommodate the swept path of the abnormal load vehicle delivering the transformer to the substation within the Proposed Development. The temporary overrun area will be removed following the delivery of the transformer. Gates at the site entrances will be set back from the public road so as not to obstruct through traffic on the public road in the event that the gates are closed. Existing drainage at the site entrances will be upgraded and incorporated into the site drainage. Drainage will be detailed to prevent any outfall of water onto the public road network. Boundary and verge vegetation adjacent to the site entrances will be trimmed and maintained for visibility during the lifetime of the Proposed Development. Details of the proposed site entrances with visibility splays and vehicle tracking are shown in Figure 1.4 for site entrance 1, Figure 1.5 for site entrance 2, Figure 1.6 for site entrance 3, Figure 1.7 for site entrance 4, Figure 1.8 for site entrance 5, Figure 1.9 for site entrances 6 and 7, Figure 1.10 for site entrance 8 and 9, Figure 1.11 for site entrance 10 Figure 1.12 for site entrance 11.

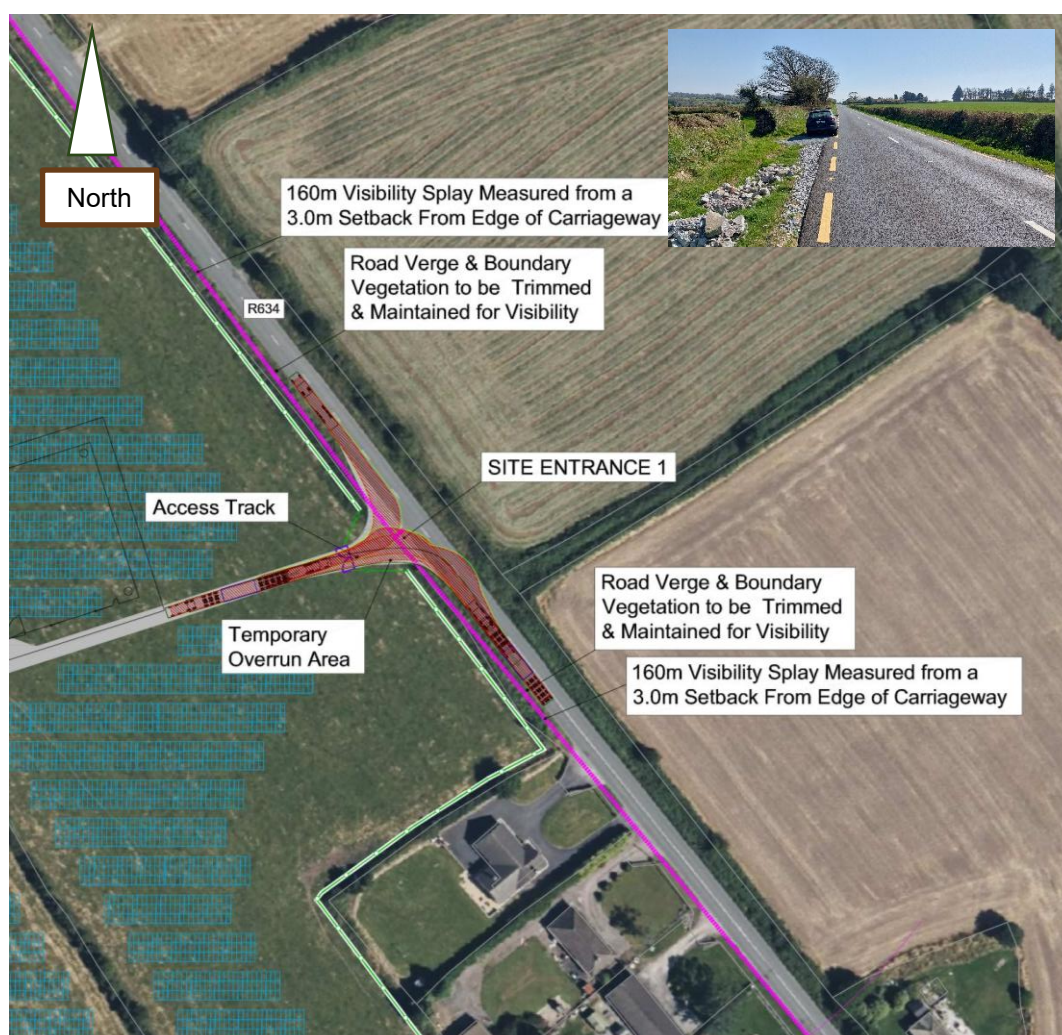


Figure 1.4: Site Entrance No.1

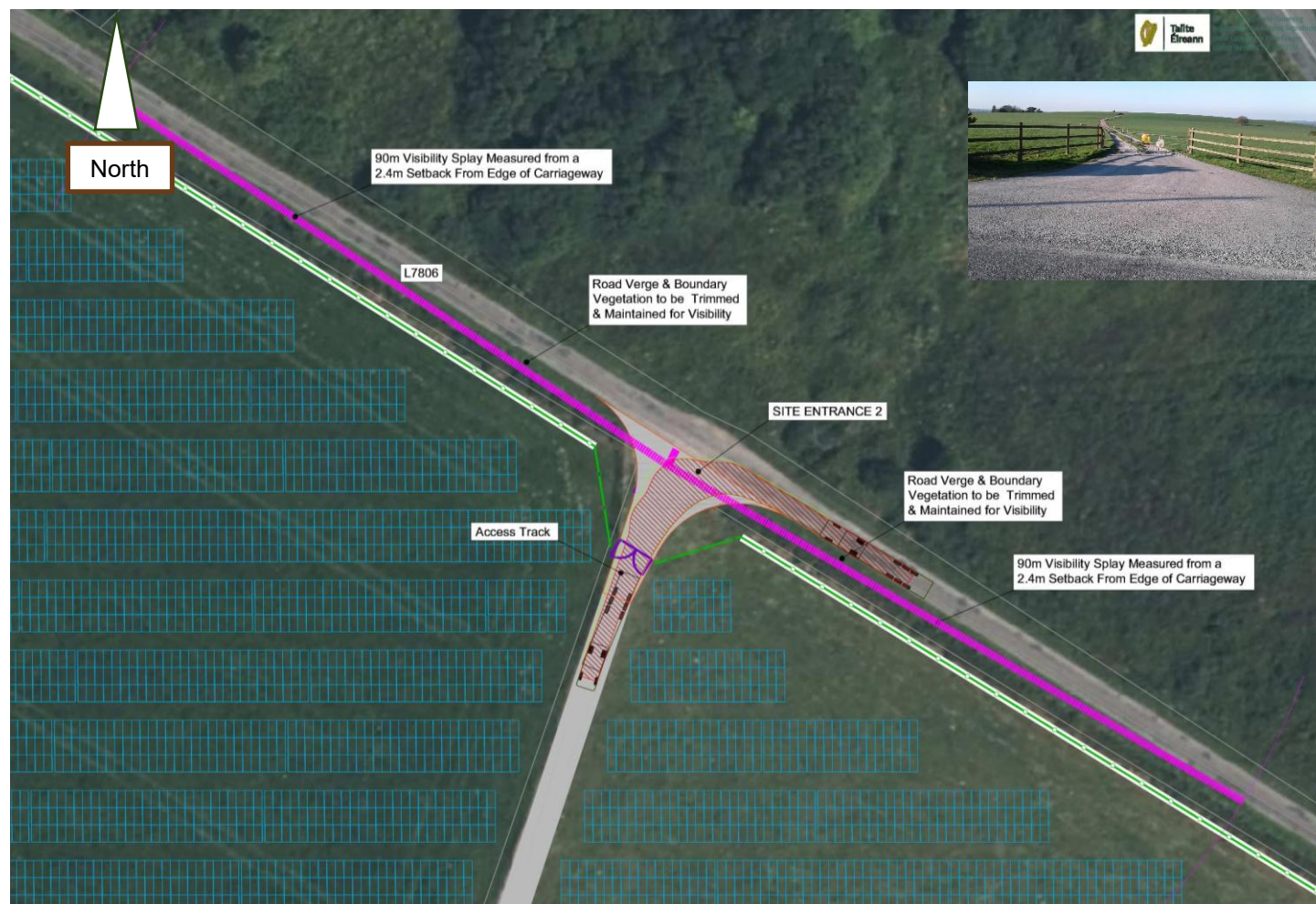


Figure 1.5: Site Entrance No.2

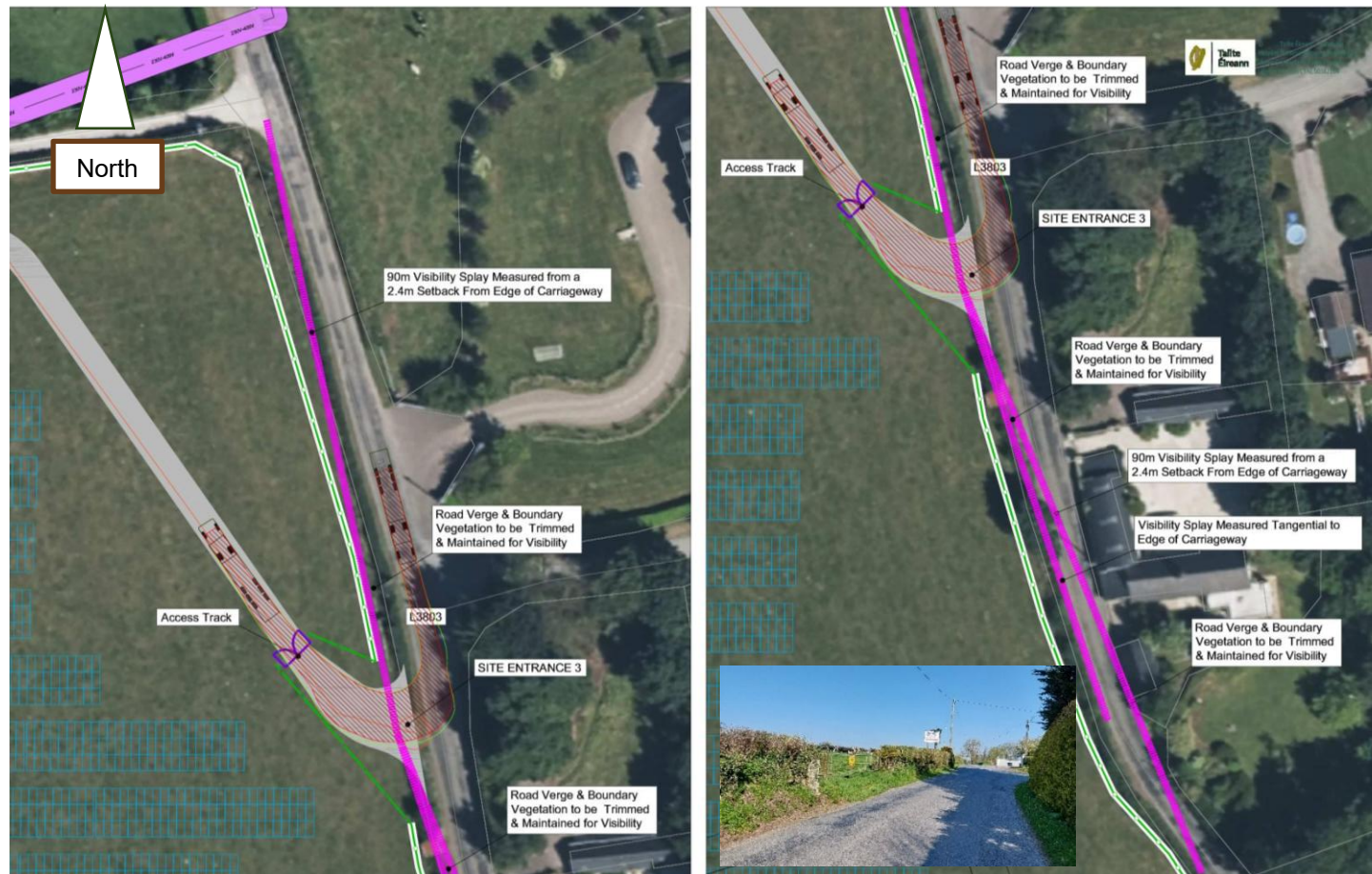


Figure 1.6: Site Entrance No.3



Figure 1.7: Site Entrance No.4

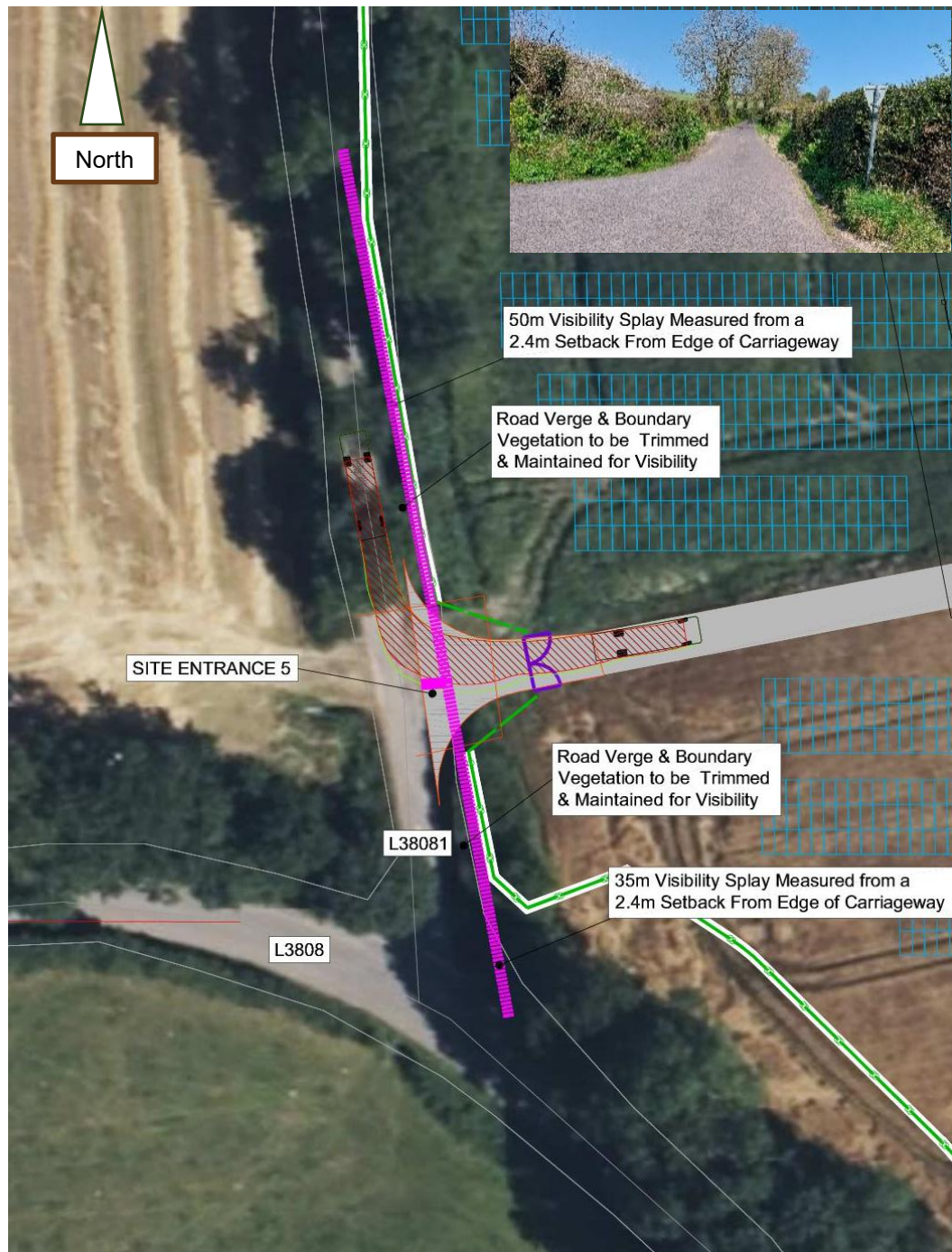


Figure 1.8: Site Entrance No.5

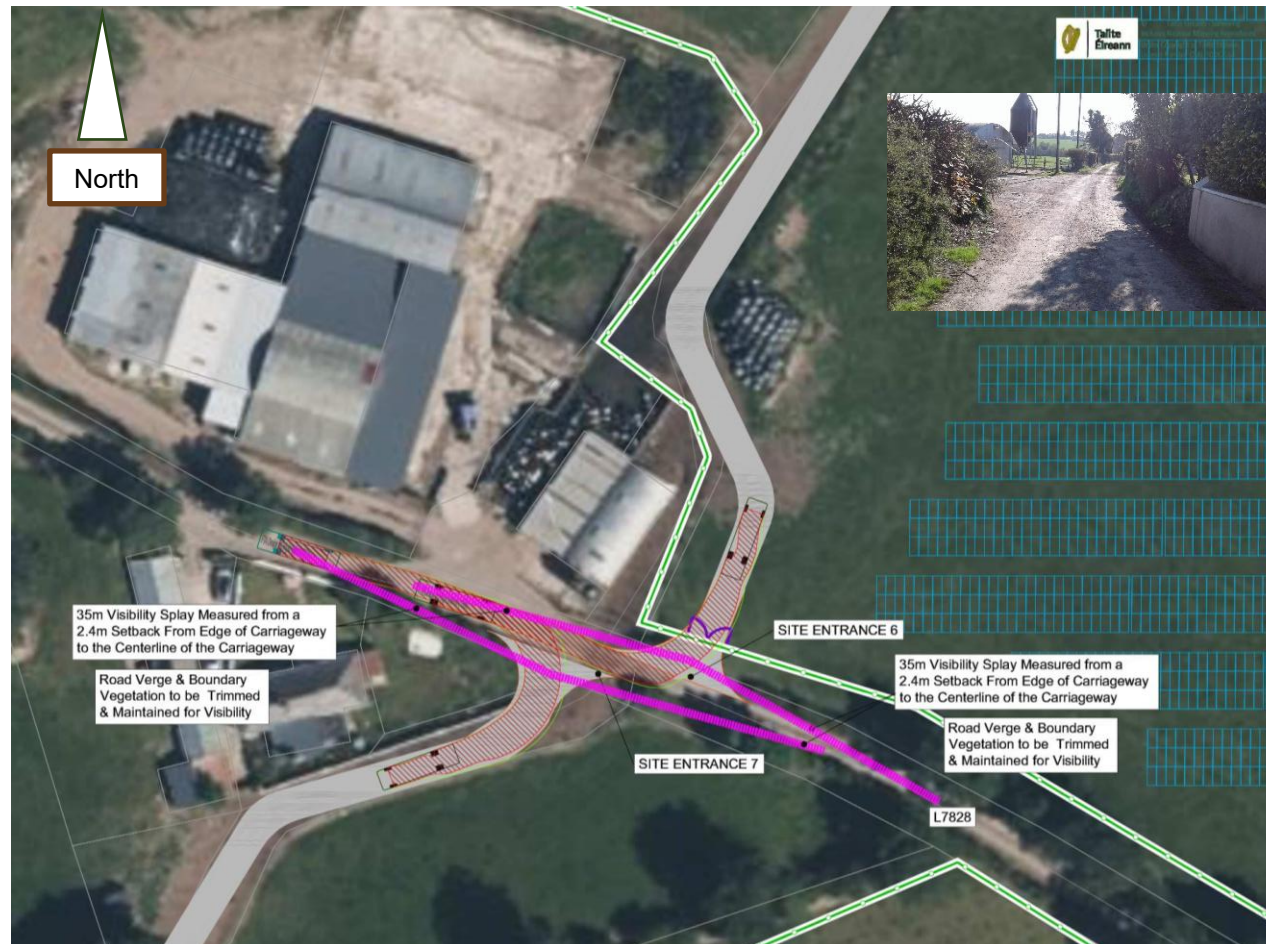


Figure 1.9: Site Entrances No.6 and 7



Figure 1.10: Site Entrances No.8 and 9

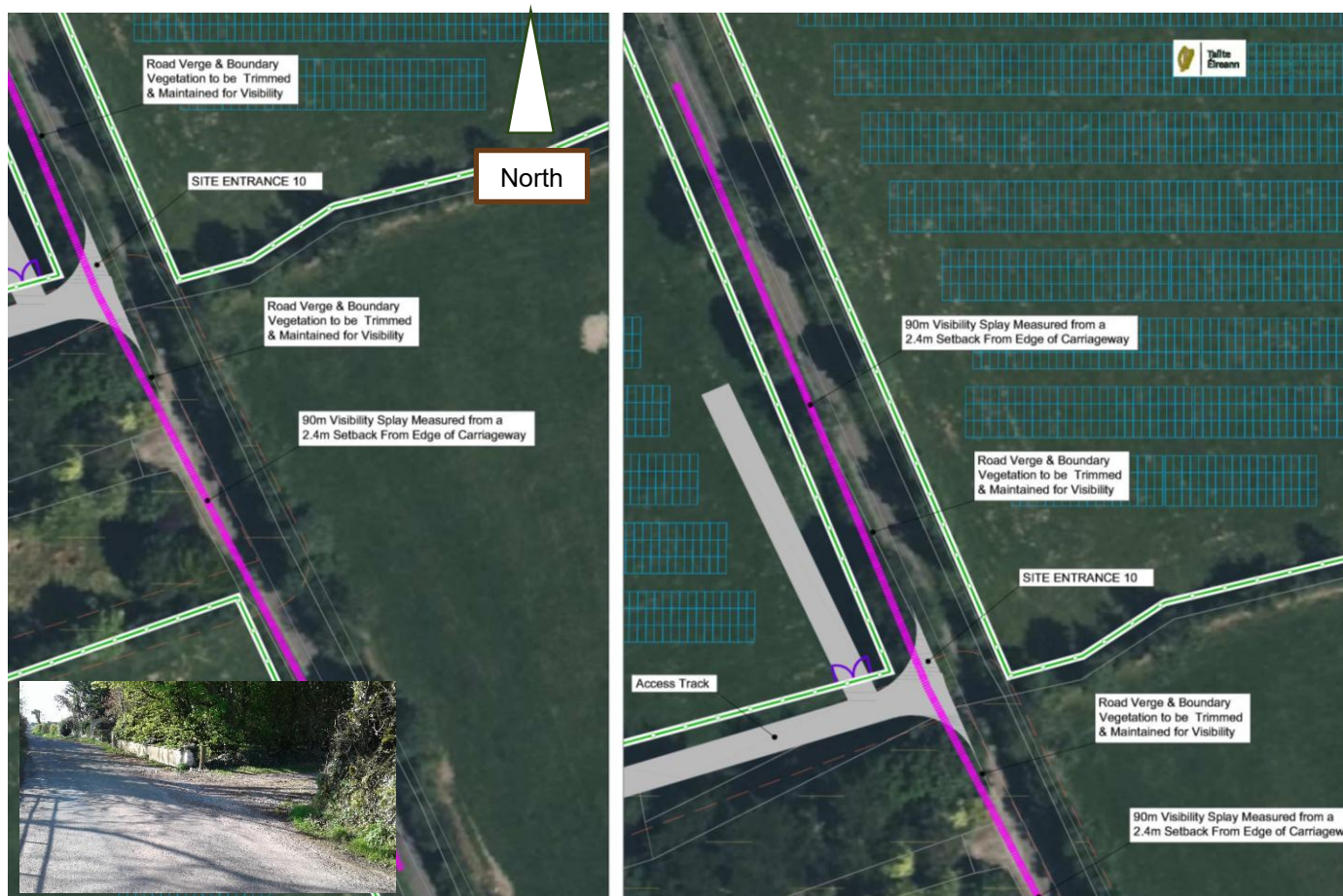


Figure 1.11: Site Entrance No.10

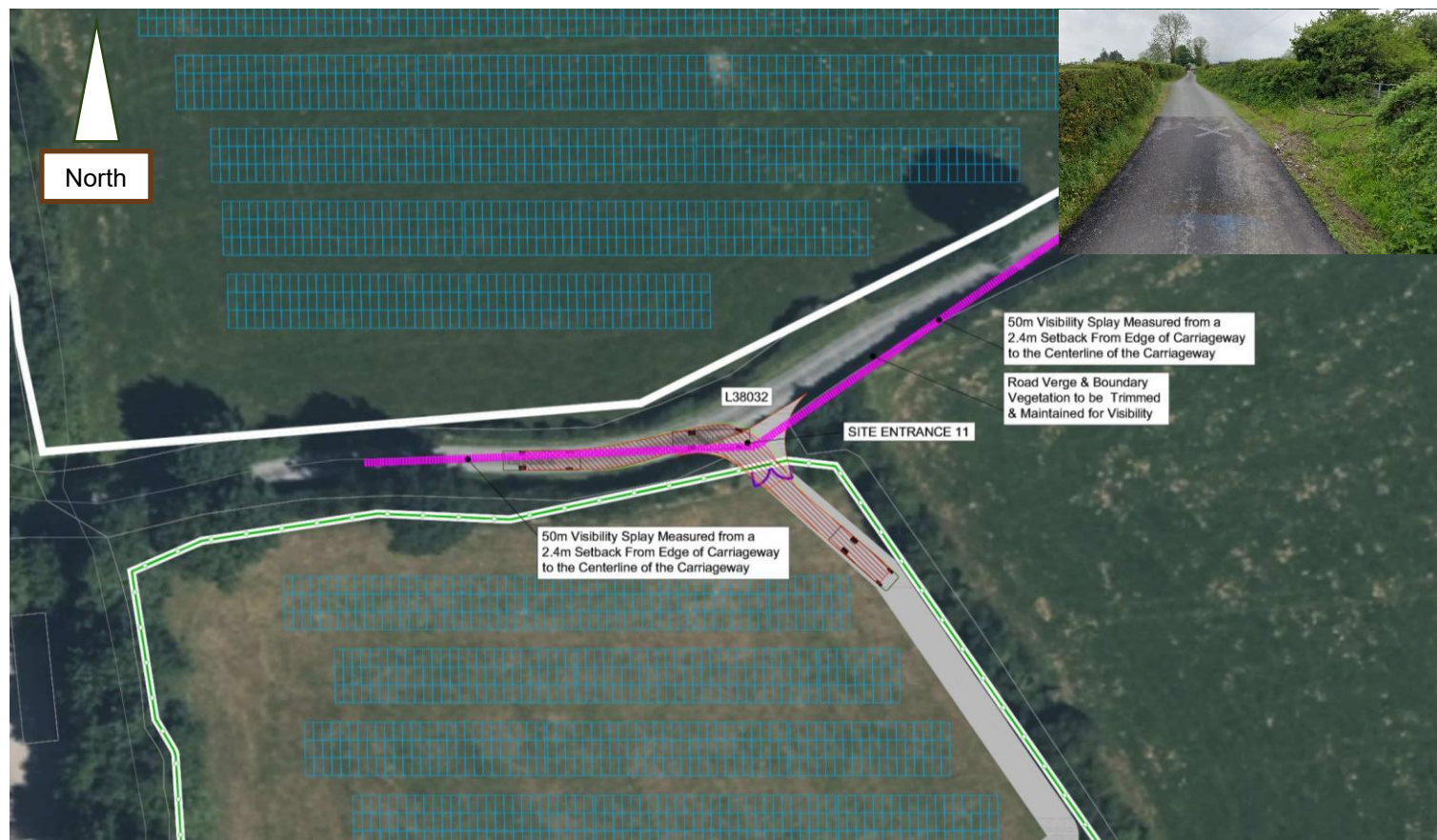


Figure 1.12: Site Entrance No.11

1.3.2 Haul Routes for Construction Traffic

All heavy goods vehicle (HGV) deliveries will access the Proposed Development from the R634 regional road and use the site entrances shown on Figure 1.2.

Deliveries to site access 1 will access directly from the R634. Deliveries to site access 2 will use the L7829 and L7806 local roads. Deliveries to site access 3 will use the L3083 local road. Deliveries to site access 4 and 5 will use the L7829 and L3808 local roads. Deliveries to site access 6 and 7 will use the L3803 and L7828 local roads. Deliveries to site entrance 8, 9 and 10 will use the L7829 local road. Deliveries to site access 11 will use the L3083 and L38032 local roads.

The construction haul routes are shown on Figure 1.13. Deliveries of building materials and electrical equipment to the Substation and BESS facility will use site access no's 1, 8 and 9, the substation transformer will be delivered on an abnormal load vehicle and will use site access no's 1, 8 and 9 as shown in Figure 1.14. Solar panels, supporting frames, cables, ducts, granular materials for access tracks, fencing and drainage supplies will be delivered to all site access points. Deliveries of materials to site access no's 4, 5, 6, 7, and 11 will be carried out using short wheelbase vehicles to minimise impact on the local road network.

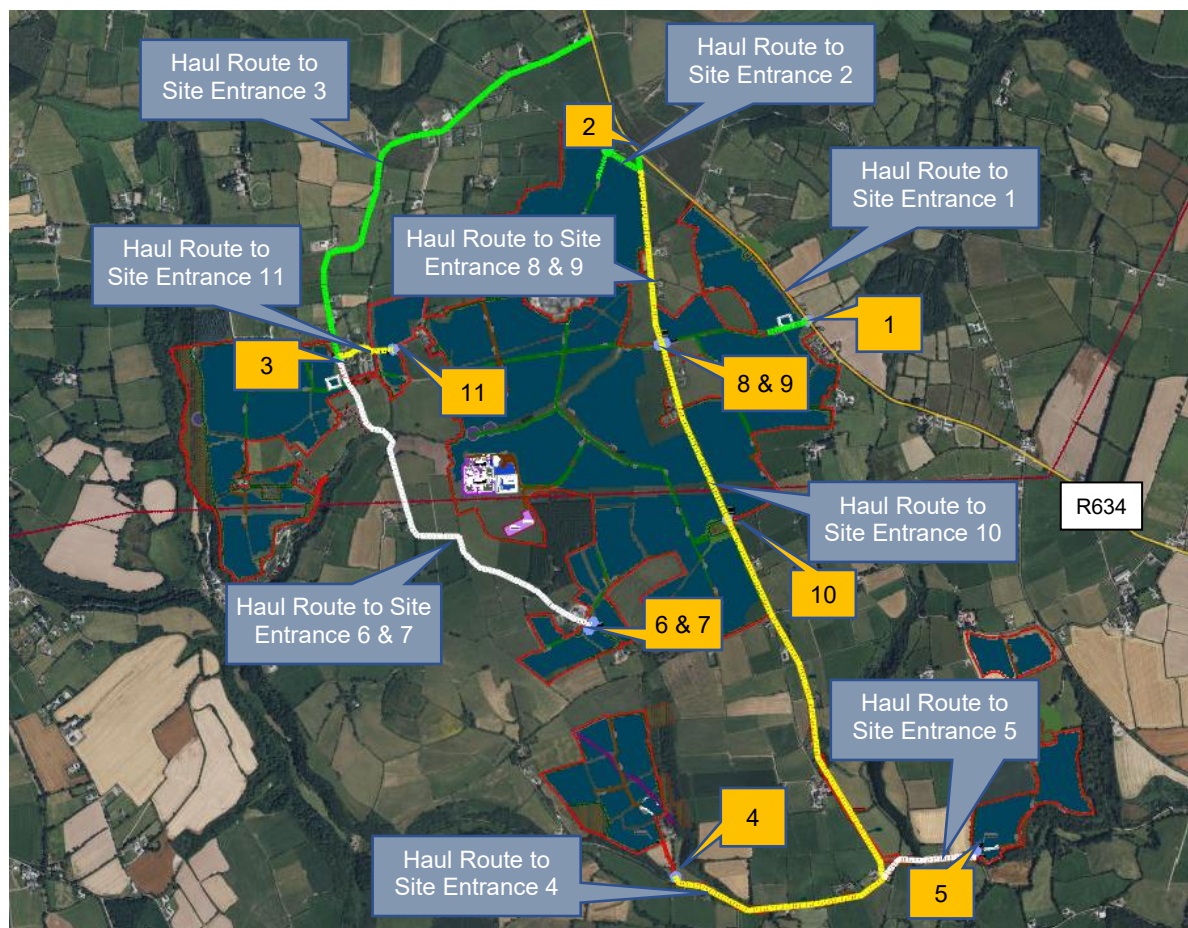


Figure 1.13: Construction Haul Routes

1.3.3 Haul Routes for Abnormal Load traffic

The construction of the solar farm will require the delivery of two abnormal loads. Two transformers weighing approx. 150 tonnes will be delivered to the substation within the Proposed Development. The transformers will be shipped to the Port of Cork or to the Port of Waterford and then transported on the N25 national primary and the R634 regional road to site entrance 1. A temporary over-run area will be constructed at site entrance 1 to accommodate the swept path and wheel loading of the abnormal load transport vehicles. The abnormal load vehicles will travel along the Proposed Development access tracks and cross the L7829 local road at site entrances 8 and 9 to reach the substation via the access track network. Details of the abnormal load vehicles and details of the haul from the R634 are shown in Figure 1.14.

1.3.4 Junction Signage

All site entrances to the Development will be stop controlled junctions. The site entrances will be signposted and marked in accordance with the Department of Transport Traffic Signs Manual (TSM, 2024). During the construction and operations phase of the solar farm, the junctions will be fitted with a RUS 027 stop sign and markings in accordance with TSM Chapter 7 Figure 7.35. During the construction of the Development, the site entrances will be signposted with advance warning signs in accordance with Chapter 8 of the Traffic Signs Manual. The layout of the advance warning signage is shown on Figure 1.15 for site entrance 1. The advance warning signage will be spaced in to comply with the posted speed limit on the road, if the actual road speeds are found to be higher, the sign spacing and frequency of signs will be adjusted in accordance with the traffic signs manual. The location of the site entrances will be signposted from the R634 to direct construction traffic to the appropriate site entrance. Directional signage will be located opposite the site entrances directing vehicles exiting the site along the haul route to the R634. Typical details of directional signage are shown in Section 1.5.9.

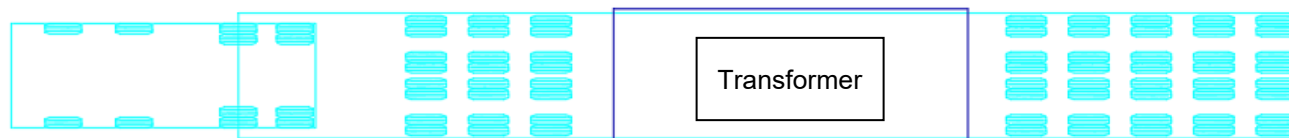


Figure 1.14: Abnormal Load Haul Route from the R634



Figure 1.15: Site Entrance 1 – Construction Signage

1.3.5 Parking

Parking for staff and visitors during the construction period will be provided at temporary compounds within the site boundary. The locations of the site compounds are shown on Figure 1.2. There will be no parking permitted on the public road network or at site entrances. Parking for vehicles involved with cable connection works on the public road network will be within the traffic management work zone.

1.3.6 Delivery Vehicles

The construction of the Proposed Development will require deliveries of goods and materials using HGV's. The delivery vehicles will consist of rigid and articulated vehicles and will be in accordance with S.I. No. 5/2003 - Road Traffic (Construction and Use of Vehicles) Regulations 2003 regarding vehicle weight and payloads. Two abnormal load vehicles delivering transformers to the substation will be required to visit the Site during the construction of the Proposed Development. Details of the abnormal load vehicles are shown in Figure 1.14. Solar farm components will be transported using standard rigid and articulated vehicles. An Autotrack analysis has been carried out at the site entrances to determine the swept path of delivery vehicles, the results of the Autotrack analysis are shown in Figure 1.4 to Figure 1.13.

1.4 Existing Road and Junction Network

1.4.1 Existing Public Road Junctions on the construction Haul Route

The existing R634 / L7829 junction is a simple T junction with priority for R634 traffic. The junction will be used by traffic accessing the Proposed Development at site entrances 2, 4, 5, 8, 9 and 10. The junction is located in an 80km/h speed limit zone on the R634. The junction is a stop-controlled junction with regulatory road markings and signage. The junction is not lit by public lighting. Observations during the traffic counts carried out on the 9th of April 2025 and results from traffic analysis carried out at the junction using the recorded traffic volumes show that there are no capacity problems at the junction under current traffic conditions. The junction is currently operating at free flow conditions with a level of service = A. The results of the analysis are summarized in **Figure 1.16**.

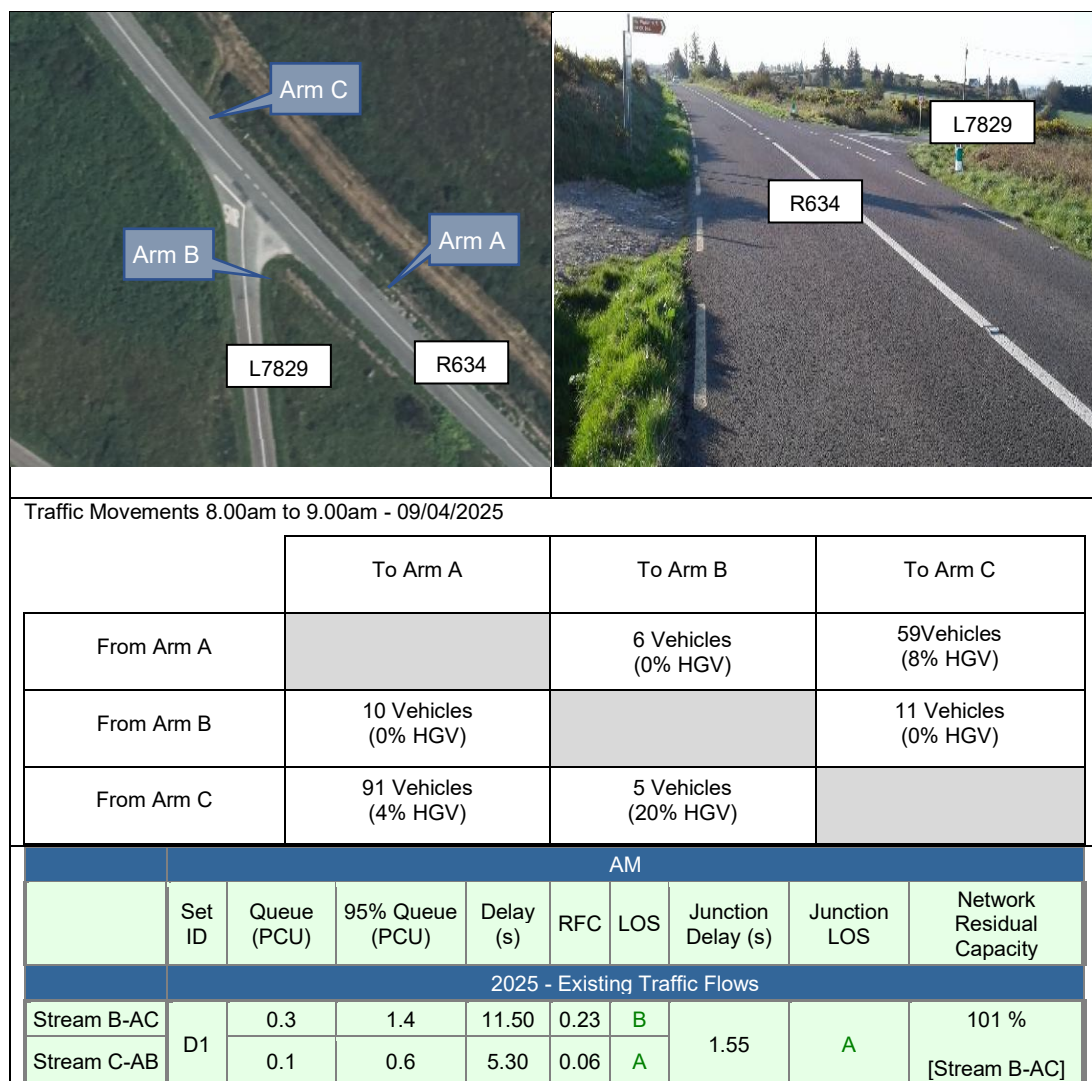


Figure 1.16: R634 / L7829 Junction

The existing R634 / L3803 junction is a simple T junction with priority for R634 traffic. The junction will be used by traffic accessing the Development at site entrances 3, 6, 7, and 11. The junction is located in an 80km/h speed limit zone on the R634. The junction is a

stop-controlled junction with regulatory road markings and signage. The junction is lit by public lighting. Details of the junction are shown in Figure 1.17.



Figure 1.17: R634 / L3803 Junction

The existing L7829 / L7806 junction is a cross roads junction with priority for L7829 traffic. The junction will be used by traffic accessing the Proposed Development at site entrances 2, 4, 5, 8, 9 and 10. The junction is located in a 60km/h speed limit zone. The junction is a stop-controlled junction with regulatory road markings and signage. The junction is not lit by public lighting. Details of the junction are shown in Figure 1.18.



Figure 1.18: L7829 / L7806 Junction

The existing L7829 / L7828 junction is a cross roads junction with priority for L7829 traffic. The junction will be used by traffic accessing the Proposed Development at site entrances 4 and 5. The junction is located in a 60km/h speed limit zone. The junction is a stop-controlled junction with regulatory road markings and signage. The junction is not lit by public lighting. Details of the junction are shown in Figure 1.19.



Figure 1.19: L7829 / L7828 Junction

The existing L7829 / L3808 junction is a simple T junction with priority for L3808 traffic. The junction will be used by traffic to access the Proposed Development at site entrances 4 and 5. The junction is located in a 60km/h speed limit zone. The junction is a stop-controlled junction with regulatory road markings and signage. The junction is not lit by public lighting. Details of the junction are shown in Figure 1.20.



Figure 1.20: L7829 / L3808 Junction

The existing L3808 / L38081 junction is a simple T junction with priority for L3808 traffic. The junction will be used by traffic accessing the Proposed Development at site entrance 5. The junction is located in a 60km/h speed limit zone. The junction is a stop-controlled junction and is not lit by public lighting. Details of the junction in Figure 1.21.



Figure 1.21: L3808 / L38081 Junction

The existing L3803 / L38032 junction is a simple T-junction with priority for L3803 traffic. The junction will be used by traffic accessing the Proposed Development at site entrance 11. The junction is located in a 60km/h speed limit zone. The junction is a stop-controlled junction and is not lit by public lighting. Details of the junction are shown in Figure 1.22.



Figure 1.22: L3803 / L38032 Junction

The existing L3803 / L7828 junction is a simple T junction with priority for L3803 traffic. The junction will be used by traffic accessing the Development at site entrances 6 and 7. The junction is located in a 60km/h speed limit zone. The junction is a stop-controlled junction and is not lit by public lighting. Details of the junction are shown in Figure 1.23.



Figure 1.23: L3808 / L7828 Junction

1.4.2 Existing Public Roads on the Construction Haul Routes

The R634 (Plate 1) is Type 3 single carriageway with two 2.5m lanes, 0.5m hard strips and grass verges. The carriageway is in good condition and has an 80km/h speed limit. The R634 is clearly delineated with roadmarkings and has directional and regulatory signage. It is not proposed to carry out any alterations to the R634 as part of the Proposed Development. Existing traffic volumes on the R634 were obtained from the classified traffic counts carried out by JOD on Wednesday 9th April 2025 at the R634 / L7829 junction. Using the methodology from TII publication PE-PAG-02039 to calculate annual average daily traffic (AADT) from short period traffic counts, the resulting AADT on the R634 is calculated from the recorded traffic counts as 2,330 vehicles which equates to a two-way traffic flow of approximately 166 vehicles during peak hour traffic periods with 5% HGV traffic.

The L7829 (Plate 2) is a single carriageway with a 60km/h speed limit. The width of the L7829 varies from 4.5m at its junction with the R634 and the L7806 to 3.5m between its junction with the L7806 and the L3808 local road. Existing traffic volumes on the L7829 were obtained from the classified traffic counts carried out by JOD on Wednesday 9th April 2025 at the R634 / L7829 junction. Using the methodology from TII publication PE-PAG-02039 to calculate annual average daily traffic (AADT) from short period traffic counts, the resulting AADT on the L7829 is calculated from the recorded traffic counts as 429 vehicles which equates to a two-way traffic flow of approximately 32 vehicles during peak hour traffic periods with 3% HGV traffic.

The L7806 (Plate 3) has a 4.0m single carriageway with a 60km/h speed limit.

The L3803 (Plate 4) is a 5.0m single carriageway with a 60km/h speed limit. The L3803 is clearly delineated with roadmarkings and has directional and regulatory signage at junctions.

The L3808 (Plate 5) has a 4.0m single carriageway with a 60km/h speed limit.

The L7828 (Plate 6) has a 3.0m single carriageway with a 60km/h speed limit.

The L38032 (Plate 7) has a 3.0m single carriageway with a 60km/h speed limit.



Plates 1 to 7 – Existing Road Network

1.4.3 Passing Locations on the Public Road Network

The R634 regional road has a 6.0m wide carriageway and can accommodate two-way traffic. No additional passing locations are proposed on the R634.

The L7829 local road varies in width from 4.5m at its junction with the R634 and the L7806 to 3.5m between its junction with the L7806 and the L3808 local road. The L7829 can accommodate two-way traffic between the R634 and the L3808 and has natural passing locations at existing junctions / entrances and localised sections of widening along its length. The L7829 can accommodate two-way construction traffic with minor upgrades to existing passing bays in the road verge. The existing passing locations will be upgraded to withstand wheel loading using granular material laid on a geotextile membrane. Typical natural passing locations on the L7829 are shown on Plate 8.

The L7806 leading to site entrance 2 from the L7829 has a 3.5m carriageway with natural passing locations in the road verge. The L7806 can accommodate two-way construction traffic with minor upgrades to existing passing bays in the road verge. Typical natural passing locations on the L7806 are shown on Plate 9.

The L3803 leading to site entrance 3 from the R634 has a 5.0m carriageway and can accommodate two-way traffic. No additional passing locations are proposed on the L3803.

The L3808 leading to site entrance 4 and 5 from the L7829 has a 4.0m carriageway with natural passing locations in the road verge. The L3808 can accommodate two-way construction traffic with minor upgrades to existing passing bays in the road verge. The existing passing locations will be upgraded to withstand wheel loading using granular material laid on a geotextile membrane. Typical natural passing locations on the L3808 are shown on Plate 10.

The L7828 leading to site entrance 6 and 7 from the L3803 has a 3.0m carriageway with natural passing locations in the road verge. The L7828 can accommodate two-way construction traffic with minor upgrades to the existing carriageway and existing passing bays in the road verge. The existing passing locations will be upgraded to withstand wheel loading using granular material laid on a geotextile membrane. Typical natural passing locations on the L7829 are shown on Plate 11. No access will be permitted from the L7829 to site entrances 6 and 7 during the construction of the Proposed Development. Deliveries to site entrance 6 and 7 will be carried out using a short length HGV.

The L38032 leading to site entrance 11 from the L3803 has a 3.0m carriageway with natural passing locations in the road verge. The L38032 can accommodate two-way construction traffic with minor upgrades to the existing passing bays in the road verge. The existing passing locations will be upgraded to withstand wheel loading using granular material laid on a geotextile membrane. Typical natural passing locations on the L38032 are shown on Plate 12. Deliveries to site entrance 11 will be carried out using a short length HGV.



1.4.4 Construction and Enabling Works on the Public Road Networks

The following works will be carried out on the public road network.

- R634 – Construction of site entrances No.1
- L7806 – Upgrade of existing field access at site entrances No.2
- L7806 – Construction of temporary passing bays to withstand wheel loading using granular material laid on a geotextile membrane at existing passing locations in the L7806 road verge.
- L3803 - Construction of site entrances No.3
- L7829 – Upgrade of existing field access at site entrances No.8
- L7829 – Upgrade of existing field access at site entrances No.9

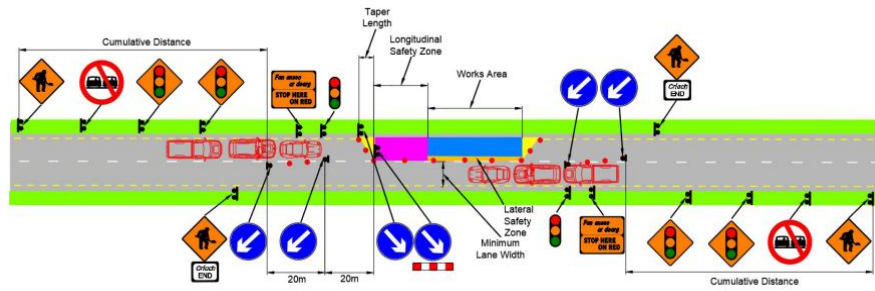
- L7829 – Upgrade of existing access at site entrances No.10
- L7829 – Construction of temporary passing bays to withstand wheel loading using granular material laid on a geotextile membrane at existing passing locations in the L7829 road verge.
- L7829 – Cable Laying in carriageway, refer to Figure 1.24 for location of works and Figure 1.25 for details of temporary diversions during road closures.
- L3808 - Cable Laying in carriageway, refer to Figure 1.24 for location of works and Figure 1.25 for details of temporary diversions during road closures.
- L38081 - Upgrade of existing access at site entrances No.5.
- L7828 - Upgrade of existing field access at site entrances No.7 and 8.
- L7828 – Construction of temporary passing bays to withstand wheel loading using granular material laid on a geotextile membrane at existing passing locations in the L7828 road verge..
- L38032 - Upgrade of existing access at site entrances No.11.
- L38032 – Construction of temporary passing bays to withstand wheel loading using granular material laid on a geotextile membrane at existing passing locations in the L38032 road verge.



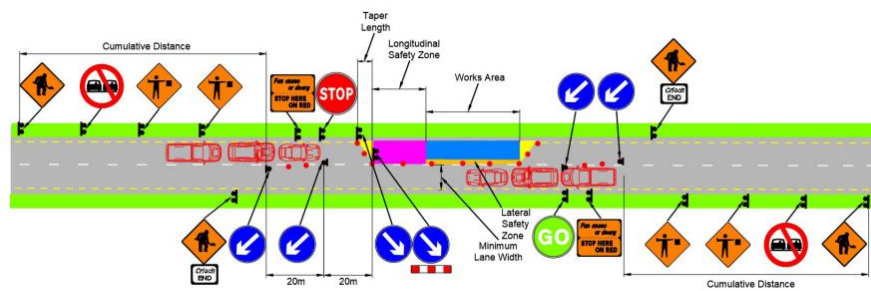
Figure 1.24: Cable Laying in Public Roads

1.4.5 Traffic Management

Traffic management will be required during the construction of site entrances and passing bays on the R634, L7806, L3803, L7829, L7828 and L38081 local roads and during trenching and cable laying works for the underground cable on the L3808 and L7829. Traffic management will be carried out in accordance with Chapter 8 of the Traffic Signs Manual using temporary traffic signals and flagmen. Details of traffic management systems for site entrance and passing bay construction is shown on Figure 1.25. The location of underground cable works on the public road network is shown on Figure 1.24. Details of road closures and temporary diversions during underground cable works on the public road network are shown on Figure 1.26.



Temporary Traffic Signals – Site Entrance Construction



Stop & Go – Short Duration Works

Figure 1.25: Temporary Traffic Management

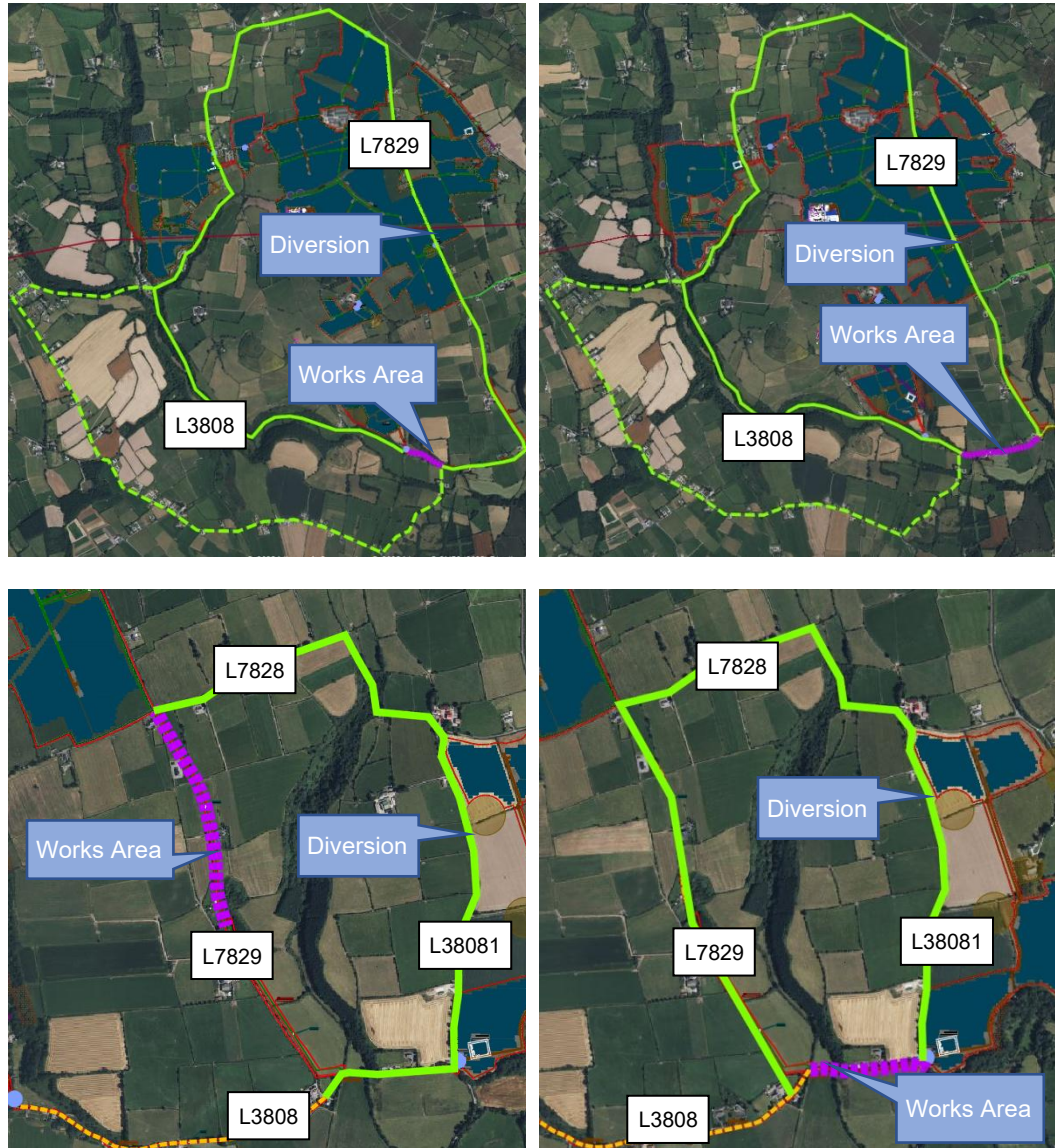


Figure 1.26: Temporary Diversions During Cable Laying in Public Roads

1.5 Pre-construction Works Requirements

1.5.1 Location and Diversion of Existing Services

A desk-based study will be carried out to locate existing services at all works locations before work commences onsite. Prior to the commencement of works, the location of existing services shall be confirmed by ground penetrating radar. All service diversions and works to protect existing services which are necessary for the construction of the solar farm shall be agreed with the relevant service provider prior to works commencing onsite.

1.5.2 Road and Verge Maintenance Agreement – Local and Regional Roads

Prior to the commencement of works, the developer / contractor shall liaise with the local road engineers office and agree a protocol for general and emergency maintenance and repair of the public road network. The agreement will include call-out procedures for council and contractors staff, maintenance and repair of road surfacing, maintenance and repair of road verges, maintenance and repair of drainage systems on the public road, maintenance of vegetation at site entrances and junctions. emergency repair procedures outside normal working hours and specifications for materials and workmanship.

1.5.3 Road and Verge Maintenance Agreement – National Roads

Prior to the commencement of works, the developer / contractor shall liaise with Transport Infrastructure Ireland (TII) and agree a protocol for general and emergency maintenance and repair of the national road network. The agreement will include call-out procedures for maintenance and repair of road surfacing during the transportation of abnormal loads on the N25 leading to the solar farm site entrances. Specifications for materials and workmanship will be in accordance with TII standards and specifications which are published on the TII website.

1.5.4 Permits to Work on the Public Road Network

Prior to the commencement of works, the contractor shall obtain all necessary road opening licenses and road closure permits to work on the public road network. The contractor shall inform the public in advance of any road closures and provide alternative means of access to properties, businesses and farms.

1.5.5 Traffic Management Plan

All works carried out on the public road network shall be carried out using a traffic management system in accordance with the requirements of Chapter 8 of the Traffic Signs Manual. The appointed contractor shall compile a detailed Traffic Management Plan (TMP) for the works which will specify the precise traffic management measures for each works section and submit to Cork County Council for approval. The contractor will appoint a competent traffic management coordinator who will be the main point of contact for all traffic management matters during the course of the works. The agreed traffic management systems shall be installed and maintained by operatives with the appropriate training to carry out works on traffic management systems. The TMP shall be reviewed by the owners engineer and Developer prior to submission to Cork County Council.

1.5.6 Vulnerable Road Users

The local road network in the vicinity of the proposed development is popular with leisure walking, cycling and equestrian pursuits. Signage from the traffic signs manual shall be located along the haul routes to highlight the presence of vulnerable road users. The signs will include W140 Pedestrians, W143 Cyclists and W150 Horses (see **Figure 1.27**).

1.5.9 Site Access Roads and Speed Limits

All construction traffic shall access the Site from the R634 as shown in Figure 1.13. Construction HGV traffic shall be prohibited from using local roads which do not form part of the haul route. The location of Site access points shall be signposted and assigned a Site access number for the duration of the works. Haul Routes for construction and delivery traffic shall be signposted from the R634 with directional signage located at all site entrances and junctions on the haul route. All construction traffic will observe the posted speed limits which will be signposted along the haul routes. Typical directional signs are shown in Figure 1.29.



Figure 1.29: Typical Directional Signage at Site Entrances

1.5.10 Road Condition Survey

A pre-construction road condition survey shall be carried out prior to any works commencing onsite. A post-construction condition survey shall be carried out following the completion of the works in consultation with Cork County Council. Reinstatement of defects on the public road network resulting from construction traffic shall be made good to a specification agreed with Cork County Council. The extent of the road condition survey shall cover the haul routes on the local road network shown in Figure 1.13. The final scope shall be agreed with Cork County Council.

1.5.11 Condition Survey of Watercourse Crossings

Should permission be granted for the Development, a pre-construction condition survey shall be carried out to assess watercourse crossings on the haul routes shown in Figure 1.12. The watercourse condition survey shall identify any requirements for culvert and bridge strengthening work necessary for HGV and abnormal load traffic associated with the construction of the Proposed Development.

1.5.12 Public Information and Access

The appointed Contractor shall inform local residents, schools, businesses and emergency services of proposed works and road closures in advance of any works taking place onsite. Access shall be maintained to properties at all times during the course of the works. The Contractor will appoint a project coordinator who will be the main point of

contact for matters relating to traffic which will affect the general public, local businesses and emergency services. An out-of-hours contact number shall also be provided.

1.5.13 Emergency Access Routes

Emergency access routes shall be provided at all times for emergency service vehicles to access the Site or to bypass the works in the event of an emergency.

1.6 Construction, Operation & Decommissioning Traffic Volumes

1.6.1 Construction Period and Working Hours

The construction of the Proposed Development is programmed to be carried out over a 21-month construction period. The estimated timeframe is based on the construction of similar size solar farms. Working hours during the construction of the solar farm will be from 08:00 - 18:00 Monday to Friday and 08:00 – 16:00 on Saturdays with no working on Sundays or Bank Holidays. Any construction works carried out outside these hours will be agreed in writing with Cork County Council.

1.6.2 Construction Period – Trip Generation, HGV's

Trip rates for the Proposed Development are based on traffic volumes generated during the construction of similar size solar farm developments and should be treated as a guideline for planning purposes only. The construction period for the Proposed Development is anticipated to occur over a 21-month period. During the construction period the Proposed Development will generate HGV trips associated with the delivery of goods and materials for the construction of the solar farm, Substation and BESS and LGV trips associated with construction personnel. HGV and LGV trip rates will be highest between months 2 and 14 of the contract and will be associated with the construction of Site infrastructure such as access roads, substation, BESS and the installation of solar panel and supporting frames.

There are five temporary construction compounds located on the Site during the construction period. The compounds require granular material which will be placed on a geotextile layer. The granular material will be incorporated into the final surfacing of the access road network at the end of the construction period and will not be removed from Site.

The construction of the Proposed Development does not involve the excavation of large volumes of material which will have to be removed from Site. Topsoil and unsuitable material arising from access track construction, structural foundations and cable trench construction will be temporarily stockpiled at dedicated safe locations and incorporated into site landscaping and trench reinstatement. Any surplus materials will be transported off site and disposed of at a licenced waste facility. The construction of cable and ducting in the public road network will result in waste granular and asphalt material which will be transported for recycling / disposal at a licenced waste facility. Surplus topsoil and subsoil will be notified under Article 27 of the European Communities (Waste Directive) Regulations, 2011 or treated to comply with Article 28 if practicable. Any materials containing invasive species will be appropriately managed and sent to authorised facilities for disposal. A summary of the predicted indicative traffic estimates for the construction phase of the Proposed Development is provided in **Table 1.1** below.

Table 1.1: HGV Traffic Volumes During Construction

Greenhills Solar and BESS Proposed Development Construction Timeline

Construction Element	Start Month	Finish Month	Approximate Duration in time period	Total Loads	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21
Project Detailed Design, Marking Out & Procurement	1	12	12 months																						
Deliveries - PV Modules	2	7	6 months	900		150	150	150	150	150	150														
Deliveries - Inverters	6	8	3 months	54						18	18	18													
Deliveries - Transformers	8	11	4 months	54								14	14	14	12										
Deliveries - BESS	8	11	4 months	25								6	6	6	7										
Deliveries - Cabling	8	11	4 months	325								82	81	81	81										
Construction - Civils, Fencing, Tracks, Compounds, Hardstands, Drainage, Substation, BESS	2	14	12 months	3701		285	285	285	285	285	285	285	285	285	285	285	281								
Construction - Pile Foundations	6	12	7 months	320						46	46	46	46	46	45	45									
Construction - Frame Structure Assembly	7	14	8 months	641							80	80	80	80	80	80	81								
Construction - Solar PV Module Installation	8	14	7 months	80								12	12	12	11	11	11	11							
Construction - Electrical - Trenching, Cabling, Inverter & Transformer Installation	8	15	8 months	131								16	16	16	16	16	17	17	17						
Grid Connection & Commissioning of the Site	13	20	7 months	452													58	58	56	56	56	56	56	56	
COD	21	21	1 month	60																					60
Monthly HGV Total					0	435	435	435	435	499	579	559	540	540	537	437	451	448	73	56	56	56	56	56	60
Weekly HGV Total					0	109	109	109	109	125	145	140	135	135	134	109	113	112	18	14	14	14	14	14	15
Daily HGV Arrivals					0	20	20	20	20	23	26	25	25	25	24	20	21	20	3	3	3	3	3	3	3
Daily HGV Departures					0	20	20	20	20	23	26	25	25	25	24	20	21	20	3	3	3	3	3	3	3
Hourly HGV Arrivals					0.0	2.5	2.5	2.5	2.5	2.8	3.3	3.2	3.1	3.1	3.1	2.5	2.6	2.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Hourly HGV Departures					0.0	2.5	2.5	2.5	2.5	2.8	3.3	3.2	3.1	3.1	3.1	2.5	2.6	2.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3

1.6.3 Construction Period – Light Vehicles/Vans and Construction Personnel

It is expected that there will be a maximum of 100 staff on-site at any one time during the construction period, although this will vary with the overall programme of works. It is expected that there will be a degree of vehicle sharing by staff and so it is anticipated that there will be significantly less than 100 staff vehicles per day arriving on-site (estimated maximum; 50-60 per day during peak construction periods). Labour vehicle sharing and minibus transport will be actively encouraged to reduce vehicular movements. The Proposed Development will also generate approximately 10 additional LGV trips by personnel who are not directly involved with construction such as security staff, plant maintenance, post and developers staff.

1.6.4 Construction Traffic Distribution and Profile

The predicted trip rates for the Proposed Development show that the traffic volumes generated by the construction of the solar farm will be greatest between months 2 and 14 of the contract when an average of 22 HGV and 70 LGV could potentially visit the Site on a daily basis. During this period a significant proportion of the construction traffic will consist of granular material deliveries and the distribution of HGV traffic throughout the day will be similar to a quarry traffic profile. The HGV traffic will peak during the morning period corresponding to first deliveries as loaded trucks arrive, peak after lunchtime and again in the afternoon corresponding to the final delivery. The majority of LGV traffic will arrive and depart corresponding to the site working hours and a proportion of the workforce may make additional trips at lunchtime. An indicative daily traffic profile for the Proposed Development during peak construction period is shown in **Table 1.2**.

Table 1.2: Construction Traffic Profile – Peak Construction Period

Time	Arrivals		Departures	
	HGV	LGV	HGV	LGV
06.00 – 07.00		10		
07.00 – 08.00		45		1
08.00 – 09.00	5	5	5	
09.00 – 10.00	4	1	4	1
10.00 – 11.00	2	3	2	
11.00 – 12.00	2	2	2	2
12.00 – 13.00	2		2	3
13.00 – 14.00	1	10	1	10
14.00 – 15.00	3	3	3	1
15.00 – 16.00	2		2	2
16.00 – 17.00	1		1	20
17.00 – 18.00				40
18.00 – 19.00		1		

1.6.5 Operational Period – Traffic

The operational phase of the solar farm will generate low volumes of traffic on the public road network. The solar farm will be manned by operational staff based at the substation and monitored remotely using SCADA systems and CCTV surveillance. The solar farm will generate trips associated with operational staff who will carry out routine electrical and grounds maintenance and will generate approximately 10 LGV trips per day, with additional visits, when necessary, required to attend to remedial issues. During the operational period the majority of trips will be associated with the substation and BESS facility and visitors will access the development via site entrance 8 on the L7829. Access points to the solar farm during the operational period will be from the site entrance points used during the construction period.

1.6.6 Decommissioning Period – Traffic

During decommissioning of the Proposed Development, the number of HGVs required will be similar to the construction phase. There are currently no trip rates available for decommissioning of a solar farm so the following assumptions have been made:

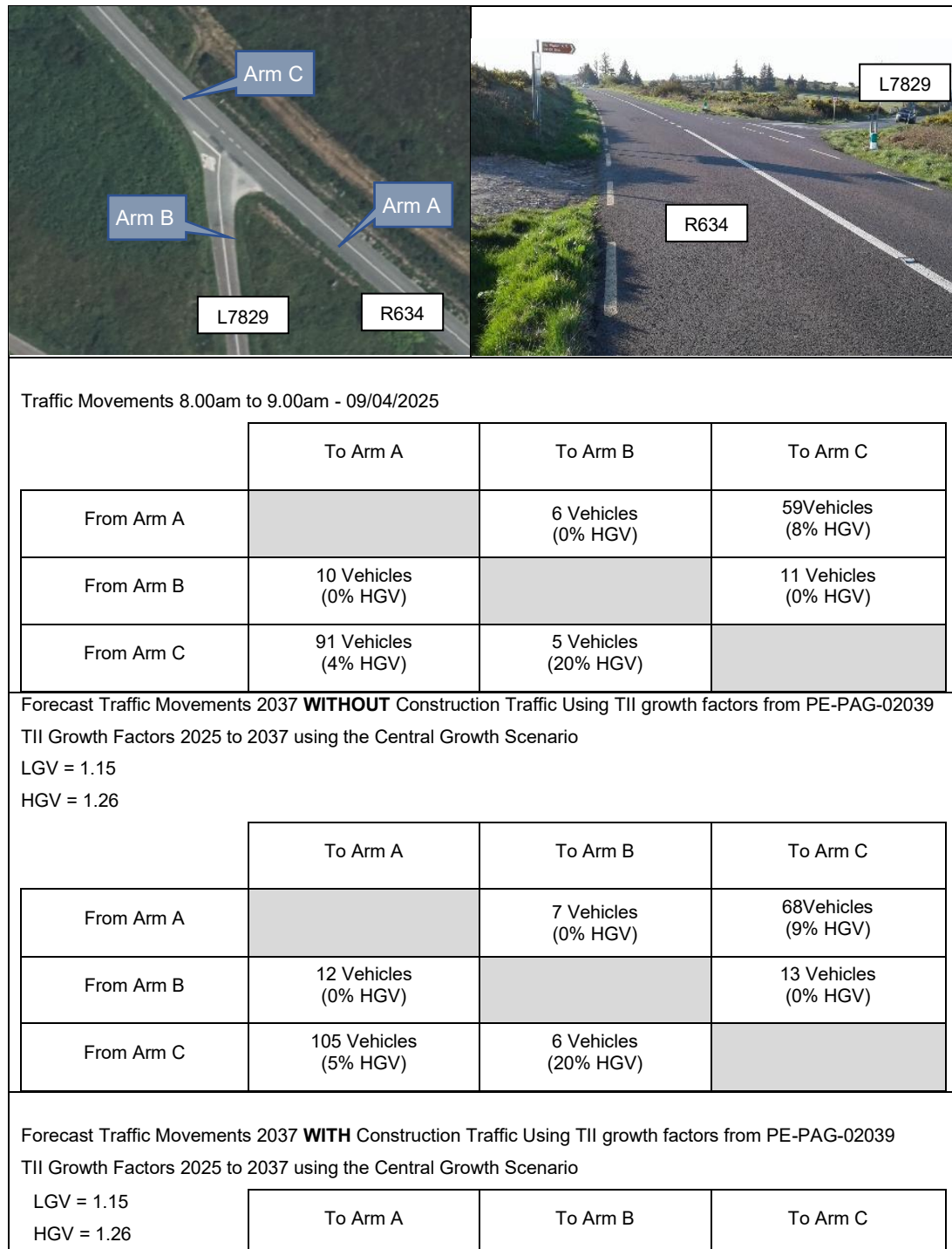
- The solar panels and frames will not be as neatly packed as when shipped from factory conditions but will be transported for recycling without packaging or pallets.
- Access tracks will be left in situ for continued use by the landowner.
- Structural foundations will be covered with topsoil and reseeded.
- The electrical cable will be removed for recycling but ducting and sand surround will remain undisturbed.
- The site access works will remain in place for the benefit of the landowner.
- Deer proof perimeter fencing will remain in place for the benefit of the landowner.
- Security fencing will be removed from the BESS.
- All electrical installations will be removed from site other than the substation and loop-in grid connection, which will form part of the national grid.

1.6.7 Impact Assessment – Proposed Development on Local and Regional Roads

The construction of the Proposed Development will generate increased traffic volumes on the regional and local road network and at its associated junctions. The construction of the Proposed Development will also increase traffic volumes at a number of sensitive receptors along the proposed haul routes to the Site such as dwellings, farms and businesses. Mitigation measures will be implemented during the construction of the Proposed Development to maintain service levels on the road network and to reduce disruption to public road users. The mitigation measures are listed in Section 1.7 of this report.

The construction of the Proposed Development will last approximately 21 months. The peak traffic generated by the development will occur between months 2 and 14 of the construction period when maximum traffic volumes could potentially reach 25 HGV arrivals and 60 LGV arrivals on a daily basis during this period. Outside this period HGV traffic volumes will reduce to approximately 3 HGV trips per day.

Construction traffic will be distributed between three haul routes with separate junctions onto the R634, the location of the haul routes are shown in Figure 1.13. A traffic analysis of the R634 / L7829 junction has been carried out to assess the impact of construction traffic on the public road network. The assessment is carried out in 2037 which allows for a 10-year planning permission (if planning is granted in 2027). The assessment compares the evolution of the recorded baseline traffic at the junction in 2025 using TII growth factors in 2037 against the forecast 2037 traffic volumes with construction traffic from the Proposed Development. The results of the analysis are shown in Figure 1.30.



From Arm A				13 Vehicles (23% HGV)		68Vehicles (9% HGV)			
From Arm B		15 Vehicles (20% HGV)				16 Vehicles (19% HGV)			
From Arm C		105 Vehicles (5% HGV)		12 Vehicles (33% HGV)					
		AM							
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
		2025 - Existing Traffic Flows							
Stream B-AC	D1	0.3	1.4	11.50	0.23	B	1.55	A	101 %
Stream C-AB		0.1	0.6	5.30	0.06	A			[Stream B-AC]
		2037 - Projected Traffic Flows WITHOUT Construction Traffic							
Stream B-AC	D2	0.4	1.7	13.21	0.29	B	1.81	A	69 %
Stream C-AB		0.2	1.0	5.18	0.08	A			[Stream B-AC]
		2037 - Projected Traffic Flows WITH Construction Traffic							
Stream B-AC	D3	0.9	4.2	20.51	0.44	C	3.72	A	28 %
Stream C-AB		0.5	1.4	5.85	0.17	A			[Stream B-AC]

Figure 1.30: Traffic Analysis R634 / L7829 Junction

Figure 1.30: Traffic Analysis R634 / L7829 Junction

The results of the traffic analysis show that increased traffic volumes associated with the construction of the Proposed Development will result in short term delays for local traffic on the road network and the overall impact has been assessed as being **slight negative and short-term** during the 21-month construction period.

The operational phase of the Proposed Development will generate low volumes of traffic on the public road network. The solar farm will be occupied by operational staff and monitored remotely using SCADA systems and CCTV surveillance. The solar farm will generate trips associated with operational staff who will carry out routine electrical and grounds maintenance and will generate approximately 10 Light Goods Vehicles (LGVs) trips per day, with additional visits, when necessary, required to attend to remedial issues. Access to the solar farm during the operational period will be from the site entrance points used during the construction period. Gates at the site entrances will be set back from the road edge to allow vehicles to leave the road and unlock gates when visiting the Site. The low volumes of traffic generated during the operation of the solar farm will integrate into existing local traffic flows and the overall impact has been assessed as being **imperceptible negative long term** during the operational phase of the solar farm.

Traffic during the decommissioning of the solar farm will be similar to the construction period and will result in short term delays for local traffic on the network. The overall impact has been assessed as being **slight negative and short-term during the decommissioning period**.

1.6.8 Impact Assessment – Proposed Development on National Roads

The construction of the Proposed Development will generate increased traffic volumes on the National Road network and at its associated junctions. The Traffic Infrastructure

Ireland (TII) traffic counter on the N25 show that two-way traffic volumes for an average workday in September 2025 amount to 11,214 vehicles per day between the hours of 7am and 7pm including a total of 633 HGV's.

The construction of the Proposed Development has the potential to add an additional 25 HGV trips (50 two way) and 60 LGV trips (120 two way) to the existing traffic flows. The construction of the proposed development will result in a 7.9% increase in HGV traffic and a circa 1% increase in LGV traffic on the N25 during peak construction. The calculations assume that all development traffic will approach the development from the N25.

The increased traffic volumes associated with the construction of the Proposed Development will result in a short term increase in traffic volumes on the national road network and the overall impact has been assessed as being **slight negative and short-term during the construction period**. The assessment is based on thresholds from table 2.1 and 2.2 of TII publication PE-PDV-02045 "Traffic & Transport Assessment Guidelines" which require a traffic and transport assessment for the following scenarios applicable to the national road network.

Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.	Proposed Development will generate 120 LGV trips and 50 HGV trips per day (220 PCU) approximately 2% of N25 traffic. A traffic analysis has been carried out for the adjoining R634 in Figure 1.30.
Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists or the location is sensitive.	The traffic analysis in Figure 1.30 shows that the adjoining R634 has capacity to accommodate the construction of the Proposed Development.
100 trips in / out combined in the peak hours for the proposed development	Development will generate 10 HGV and 5 LGV Trips during the Morning peak hour. Development will generate 2 HGV and 45 LGV Trips during the evening peak hour.
Development traffic exceeds 10% of turning movements at junctions with and on National Roads	Proposed Development will generate 120 LGV trips and 50 HGV trips per day (220 PCU) approximately 2% of N25 traffic and does not exceed 10% of turning movements at the R634 / N25 roundabout junction.
Development traffic exceeds 5% of turning movements at junctions with National Roads if location has potential to become congested or sensitive.	Proposed Development will generate 120 LGV trips and 50 HGV trips per day (220 PCU) approximately 2% of N25 traffic and does not exceed 5% of turning movements at the R634 / N25 roundabout junction.

1.6.9 Cumulative impacts

The construction of the Proposed Development may coincide with the construction of other unrelated developments in the area which have capacity to generate significant construction / operational traffic volumes on the public road network. A planning search of the Cork and Waterford County Council websites has shown that there are no planned or consented developments in the area which would generate significant traffic volumes. A search of An Coimisiún Pleanála case map shows that the proposed 17 turbine Lyrenacarriga Windfarm (Ref 309121) is located approximately 2.0km to the north of the Proposed Development and will use the R634 regional road for access. Windfarm construction has the potential to generate significant volumes of traffic during the construction of access roads and hardstands and during the construction of turbine foundations. During the construction of a turbine foundation, approximately 120 HGV's may visit the site throughout the day and may be combined with approximately 30 HGV's delivering granular materials.

A traffic analysis has been carried out to test the capacity of the R634 / L7829 junction in 2037 using TII traffic growth projections (+15% LGV and +26% HGV) combined with peak traffic generated by the western section of the Lyrenacarriga Windfarm (15 HGV vehicles / hour) and the Greenhills solar farm. (5 HGV vehicles / hour).

The results of the traffic analysis shows that the R634 / L7829 junction will continue to operate within capacity but vehicles joining the R634 from the L7829 will experience increased delays during peak hours on six days during the construction of Lyrenacarriga Windfarm when turbine foundation works are taking place on the section of the windfarm to the west of the R634. The analysis assumes that concrete delivery to Lyrenacarriga Windfarm will use the R634 / L7829 junction and the L7806 to access the windfarm site. In the event that the construction of the Proposed Development does coincide with concrete pours at Lyrenacarriga Windfarm, traffic management can be put in place to reduce turning manoeuvres at the R634 / L7829 junction. The traffic management options include.

- Access to the Proposed Development via Site Entrance 1 directly from the R634 using the internal access track network to avoid the R634 / L7829 junction.
- Creation of a one-way system for construction traffic using the L7806 / R634 and L7829 / R634 junctions for arrivals and the L3803 / R634 junction for departures.

1.7 Proposed Mitigation Measures

The impact of the traffic volumes generated by the Proposed Development have been identified as being temporary and associated with short term construction and decommissioning periods. The Proposed Development will generate low volumes of traffic during the operational phase. Operations traffic will observe posted speed limits and statutory regulations and specific mitigation measures are not required. The following mitigation measures will be implemented during the construction and decommissioning periods to reduce the impact of development traffic on the public road network and the local community.

- A detailed Traffic Management Plan will be completed by the appointed contractor for works to be carried out on the public road network. The Traffic Management Plan will be in accordance with Chapter 8 of the Traffic Signs Manual and will be agreed with Cork County Council prior to any works commencing on site. The Traffic Management Plan will detail traffic management systems to be implemented at all works locations on the public road. All proposed road closures and details of traffic diversions will be agreed with Cork County Council.
- The appointed contractor will appoint a competent traffic management coordinator who will be the main point of contact for all traffic management matters during the course of the works. Prior to the works commencing on site, the contractor will inform residents of the nature of the works, proposed hours of work and their expected duration.
- Traffic movement will be limited to 08:00 - 18:00 Monday to Friday and 08:00 – 16:00 on Saturdays with no movements on Sundays or Bank Holidays, unless otherwise agreed in writing with Cork County Council.
- HGV deliveries will be scheduled to avoid peak morning and evening traffic times to minimize disruption on public road users, schools, businesses and the local community.
- Construction personnel will be encouraged to car-pool, or to travel to Site in minibuses.
- Parking for site staff and construction operatives will be provided at dedicated locations within the Site. There will be no parking allowed on the public road network or in the vicinity of the site entrances. Parking during underground cable works on the L3808 and L7809 local roads will be provided within the traffic management works area.
- Gates at the site entrances will be set back from the carriageway edge to allow HGV vehicles to pull off the road and wait at the entrance without blocking the road in the event that the gates are closed.
- HGV deliveries will be planned and sequenced where practical to only arrive when the site gates are open and personnel will be on hand to receive them. Deliveries to site access no's 4, 5, 6, 7 and 11 will be carried out using small vehicles or transferred to small vehicles at the main site compounds to minimise disruption on the local road network.
- The phasing of HGV deliveries will be managed by site staff and deliveries will be coordinated to minimise the risk of opposing vehicles meeting on the local road network. The developer / contractor will liaise with schools and businesses in the area to establish existing transport schedules.
- HGV deliveries to the Site will follow dedicated haul routes to reach the Site. The haul routes will be signposted from the regional road junctions to direct vehicles to the appropriate site entrance. Construction traffic will be prohibited from using any local roads outside the dedicated haul route. The directional signage will remain for the duration of the works.

- The location of all site entrances will be highlighted using advance warning signs in accordance with Chapter 8 of the Traffic Signs Manual.
- All loads of granular material will be covered during transportation.
- Wheel cleaning facilities will be provided near the site entrances within the Site to prevent the spread of debris onto the public road.
- Any dust generating activities will be minimised where practical during windy conditions, and drivers will adopt driving practices to minimise the creation of dust. Where conditions exist for dust to become friable, techniques such as damping down of the potentially affected areas will be employed.
- All construction vehicles will observe the posted speed limit on the public road network and within the Site.
- Access to the construction site will be controlled by site security and all visitors will sign in and out. All site visitors will undergo a site induction covering Health and Safety issues at the temporary construction compounds and will be required to wear appropriate personal protective equipment while on-site.
- All materials associated with the Proposed Development will be stored within the Site boundary.

1.8 Residual Impacts

1.8.1 Construction Phase Residual Effects

The results of the traffic analysis have shown that the existing public road network can accommodate the increased traffic volumes generated by the Proposed Development. Works on the public road network will be carried out using an approved traffic management plan and site entrances will be signposted in accordance with chapter 8 of the Traffic Signs Manual. Visibility at site entrances will be maintained during construction. There is likely to be a **slight residual effect** on the condition of road surfaces at the site entrances due to vehicles turning and on the cable Connection route prior to final road reinstatement. Following final road reinstatement, there will be **no residual effects on the road network** associated with the construction of the Proposed Development.

1.8.2 Operational Phase Residual effects

There will be **no residual effects** on the public road network during the operational phase of the Development. Traffic analysis has shown that the existing public road network can accommodate the operational traffic generated by the Proposed Development when combined with predicted public traffic growth. The interface between the Proposed Development and the public road network has been designed to eliminate residual risk with visibility splays, signs and road markings and dwell areas to allow vehicles to pull off the road when entering the Site.

1.8.3 Decommissioning Phase Residual Effects

There is likely to be a slight residual effect on the condition of road surfaces at the site entrances due to vehicles turning. Following decommissioning, there will be no residual effects on the road network associated with the Proposed Development.

1.9 Conclusion on Traffic and Transport

Following assessment of the construction, operation and decommissioning of the Proposed Development on the public road network, it has been concluded that the Quality of effects will **be neutral with** increased traffic flows during the construction and decommissioning of the Proposed Development with no permanent changes to the horizontal or vertical geometry of the public road network and its associated junctions.

Following assessment, it has been concluded that the significance of the effects on the public road network where traffic management / two-way traffic flows can be maintained during works has been assessed **as slight**.

Following assessment, it has been concluded that the duration of effects relating to increased HGV traffic flows in the vicinity of the Site have been assessed as **temporary** and may last up to 21 months during the construction of the Proposed Development, the maximum effects from increased HGV traffic flows will occur during 13 months of the 21 month construction period.