

Environmental Impact Assessment Report

Lairdmannoch Energy Park

Chapter 11: Transport and Access

Lairdmannoch Energy Park Limited **wind2**

May 2025



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Glossary of Terms

Term	Definition
The Applicant	Lairdmannoch Energy Park Limited
The Agent	Atmos Consulting Limited
Environmental Advisors and Planning Consultants	Atmos Consulting Limited
Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development
Environmental Impact Assessment Regulations	Electricity Works (Environmental Impact Assessment)(Scotland) Regulations 2017 (ElA Regulations)
Environmental Impact Assessment Report	A document reporting the findings of the EIA and produced in accordance with the EIA Regulations
The Proposed Development	Lairdmannoch Energy Park
The Proposed Development Site	The full application boundary as per Figure 1-1
Study Area	Road links in the vicinity of the Proposed Development Site
Solar Development	The area of the Proposed Development that contains the Solar Arrays and associated infrastructure. As shown on Maps 7, 8 and 9 of Figure 3-1 Detailed Site Layout.
Wind Development	The area of the Proposed Development that contains the Wind Turbines and associated infrastructure. As shown on Maps 1, 2 and 4 of Figure 3-1 Detailed Site Layout.



List of Abbreviations

Abbreviation	Description
ADT	Average Daily Traffic
AL	Abnormal Loads
ALA	Abnormal Loads Assessment
ATC	Automatic Traffic Count
BESS	battery energy storage system
CIHT	Chartered Institution of Highways & Transportation
CTMP	Construction Traffic Management Plan
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
ECU	Energy Consents Unit
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
HGV	Heavy Goods Vehicle
IEMA	Institute of Environmental Management and Assessment
KGV	King George V
LDP2	Local Development Plan 2
LGV	Light Goods Vehicle
NPF4	National Planning Framework 4
NTDS	National Traffic Data System
NRTF	National Road Traffic Forecast
NTS	Non-Technical Summary
PIA	Personal Injury Accidents
PoE	Port of Entry



11 Transport and Access

11.1 Introduction

This Chapter of the Environmental Impact Assessment (EIA) Report presents an assessment of the likely significant effects arising from the construction, operation (including maintenance) and decommissioning of the Proposed Development upon the existing transport network and associated sensitive receptors and should be read in conjunction with the following technical appendices and figures in **Volume 3** and **Volume 4** of this EIA Report, respectively:

- Technical Appendix 11-1: Abnormal Loads Assessment;
- Technical Appendix 11-2: Outline CTMP;
- Figure 11-1: Study Area;
- Figure 11-2: Traffic Counter Locations; and
- Figure 11-3: Abnormal Loads Route.

The key objectives of the Chapter are to:

- Describe the assessment methodology and significance criteria used in completing the assessment of potential effects associated with increased traffic;
- Describe the current traffic and transport conditions;
- Identify and assess the likely significant environmental effects associated with increased traffic;
- Identify and describe the mitigation measures proposed to address any significant effects;
- Assess any residual effects post mitigation implementation; and
- Consider any likely cumulative effects.

This Chapter has been reviewed by Alan DeVenny BEng, PhD, CEng, MICE, a Projects Director of SYSTRA. Alan has over 25 years' experience working in traffic and transport consultancy and over 17 years' experience of working on renewable energy projects. Alan has advised on over 200 energy developments delivering EIA chapters, access assessments, Abnormal Load Assessments (ALA), infrastructure design and traffic management plans including several within The Dumfries and Galloway Council administrative area.

11.2 Consultation

The assessment process has been informed by a consultation exercise coordinated through the Scottish Government's Energy Consents Unit (ECU) leading to the issue of a formal Scoping Opinion in January 2024. A summary of key consultation responses is provided in **Table 11-1**.



Table 11-1: Consultation Undert	aken
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Consultee	Summary of Consultee Response	Where addressed within this Report
Dumfries and Galloway Council	It would be appropriate that Transport Scotland be consulted with regard to any access utilising the Trunk Road network.	Noted. Transport Scotland have been consulted.
	It would be appropriate that any future application confirm the access route(s) and identify the full extent of proposed off- site road accommodation and mitigation works including passing place provision, carriageway strengthening, widening and alterations to road boundaries all along any proposed access route(s) necessary to permit construction traffic and the passage of component delivery vehicles (this may require land outwith the public road boundary and a separate planning consent may be required in respect of these works and the potential impacts on utility services lying within the public road boundary.	Access routes are described in Section 11.4.2. An abnormal loads assessment is provided in Technical Appendix 11-1 in Volume 3 of this EIA Report which indicates mitigation works required.
	It should be noted that the A714 through Newton Stewart would not be suitable as a route for HGVs and AIL's and as such alternatives should be sought.	The A714 through Newton Stewart is no longer proposed as a construction traffic route.
	Proposals for access routes, site access and all accommodation works must be supported by swept path tracks.	Swept paths are provided in the Abnormal loads assessment in Technical Appendix 11-1 in Volume 3 of this EIA Report.
	Where a proposed access route crosses bridges and culverts, the applicant will require to get approvals and safe axle loadings (in respect of those structures) from the Council's Engineering Services (Bridges and Structures) unit.	Consultation will be undertaken with the Dumfries and Galloway Council Structures team prior to any abnormal load deliveries being made which is in line with the AL permitting process.
	All accommodation works must be designed and constructed to the satisfaction of the Planning Authority in consultation with the Roads Authority and will require appropriate permits and consents to have been issued.	Noted.
	Where public road boundaries are to be altered either for the formation of temporary accesses or for accommodation works, these should be reinstated in their original position at the conclusion of construction works (unless prior agreements have been secured with the Planning and Road Authorities).	Noted.

Consultee	Summary of Consultee Response	Where addressed within this Report
	It would be appropriate that any future submission/Environmental Statement include reference to a Construction phase Traffic Management Plan (to be agreed in writing with the Police and the Roads Authority prior to any works commencing on site.	Details of the Construction Traffic Management Plan (CTMP) are provided in Section 11.8 and an outline CTMP is provided in Technical Appendix 11-2 in Volume 3 of this EIA Report.
	The CTMP should include a programme of delivery types/numbers by month, details of all proposed mitigation measures to minimise the impact on local communities and businesses, agreed and excluded access routes and details of measures that will be implemented.	
	Whilst it is accepted that the intention is that normal and abnormal loads will take access and egress via an 'agreed' route, there is likely to be some increase in traffic using other minor roads. There is also the possibility of other unrelated windfarm projects being constructed in the vicinity concurrently with this project. Therefore, it would be appropriate that the TMP acknowledge that co-ordination phasing may be required to mitigate against the cumulative traffic impact.	
	In the event that suitable and sufficient aggregate is not available from on-site Borrow Pits, any future submission/ES/TMP should also identify worst case scenario that 100% of the aggregate required for construction shall be imported to site and identify the potential number of movements in that event .so that the potential impact of importing aggregate from elsewhere via the public road network be assessed.	The assessment provided in this Chapter assumes 100% of aggregate is imported to the Proposed Development Site, as indicated in Table 11-7 and Table 11-8 .
	Creation of windfarm access tracks and turbine placements may generate accelerated timber extraction. The A713, B795, C13s and A762 are all a well trafficked timber haulage route and therefore it would be appropriate that there should be consultation with nearby forest managers and timber hauliers through the office of the South of Scotland Timber Transport Officer to co-ordinate timber haulage operations that may use	Consultation would be undertaken with appropriate transport officers as part of the CTMP.
	the access route during the construction period, to minimise the cumulative impact on communities and road users.	
	The developer will be held responsible for the immediate execution of any repairs	



Consultee	Summary of Consultee Response	Where addressed within this Report
	and will be required to meet the cost of above average maintenance to the public road network arising from the concentration of heavy traffic associated with this development. This to be secured by legal agreement (Section 96).	Noted.
Transport Scotland	It is acknowledged that development construction is anticipated to occur over a 12-month period. The site is intended to be operational for 40 years, "after which the turbines and solar panels and associated infrastructure will be decommissioned, and the site restored unless further permission is obtained allowing further operation or repowering".	Noted.
	It is acknowledged that the proposed route options from the A75 trunk road (T) at that A75(T) / A713 at-grade priority-controlled junction are illustrated in Figure 12 of the Scoping Report. Note, any abnormal loads assessment should consider the whole route from where it enters the road network, e.g., the port of entry.	The abnormal loads assessment provide in Technical Appendix 11- 1 in Volume 3 of this EIA Report indicates the whole route from Port of Entry.
	Existing trunk road traffic data informing the traffic and transport assessment must be requested via traffic.data@mobiie.co.uk. The baseline traffic data utilised must be representative of typical conditions.	Trunk road traffic data for the A75 has been obtained from the Transport Scotland National Traffic Data System (NTDS). Noted.
	The Scoping Report does not appear to confirm the anticipated opening year of the proposed development. This must be confirmed in the EIA and an appropriate growth factor applied, e.g., National Road Traffic Forecast (NRTF) growth factor.	Year of construction has been assumed to be 2028 (subject to consenting timelines). NRTF low growth factors have been applied where necessary as detailed in Section 11.5.2.
	It is noted that the Scoping Report does not confirm anticipated assessment assumptions, e.g., the volume /percentage of construction material required to be transported to the development site, or assessment elements proposed to be scoped out. Full details of these must be provided in the EIA, supported by appropriate justification. Regarding	A worst case scenario of 100% stone imported to the Proposed Development Site has been assessed in this chapter, as detailed in Section 11.7.
	the volume of material required to be transported to site, Transport Scotland would advise that a worst-case scenario must be assessed.	
	It is noted that the Scoping Report does not	

Consultee	Summary of Consultee Response	Where addressed within this Report
	specifically confirm the proposed transport and access assessment study area. Study area road links must be clearly defined in the EIA transport and access chapter, with the points beyond which the effects of development traffic would likely be diluted clearly specified. A plan should be provided to clearly illustrate the study area extents.	The study area road links are described in Section 11.5 and indicated on Figure 11-1 in Volume 4 of this EIA Report.
	The Scoping Report does not discuss sensitive receptors. These should be appropriately considered in the assessment of effects where required.	Sensitive receptors are discussed in Sections 11.4, 11.5 and 11.7.
	Confirmation should be sought from the local authority regarding other wind farm developments that may need to be considered. An appropriate cumulative impact assessment should then be undertaken if required.	Cumulative effects are considered in Section 11.8.2.
	Transport Scotland would advise that the preparation of a Construction Traffic Management Plan (CTMP) would be appropriate in this instance as a best practice measure, regardless of the outcomes of the assessment of effects undertaken. It is advised that it would be beneficial to provide and Outline CTMP as part of the EIA, which sets out the proposed content of the CTMP.	An outline CTMP is provided in Technical Appendix 11-2 in Volume 3 of this EIA Report.
	The traffic and transport assessment should assess residual impacts associated with the proposed development.	Residual impacts are considered in Section 11.10.
	An Abnormal Loads Assessment (ALA) is required to be prepared and submitted alongside the EIA Transport and Access chapter to enable Transport Scotland to respond to any forthcoming application.	An abnormal loads assessment is provided in Technical Appendix 11-1 in Volume 3 of this EIA Report.



11.3 Legislation, Planning Policy and Guidance

11.3.1 Legislation

Legislation relevant to this assessment comprises:

• The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations').

11.3.2 Planning Policy

Planning policy relevant to this assessment comprises:

- National Planning Framework 4 (NPF4) (Scottish Government, 2023);
- Planning Advice Note 75 (Scottish Government, 2005); and
- Dumfries and Galloway Local Development Plan 2 (LDP2) (Dumfries and Galloway Council, 2019).

11.3.3 Guidance

The following guidance documents have been used during the preparation of this assessment:

- 'Transport Assessment Guidance' (Scottish Government, 2012);
- Guidelines for Traffic Impact Assessment, (Chartered Institution of Highways & Transport (CIHT), 1998);
- "Environmental Assessment of Traffic and Movement" (Institute of Environmental Management and Assessment (IEMA), 2023); and
- "Design Manual for Roads and Bridges" (DMRB) (DfT, 2013).

11.4 Methodology

11.4.1 Scope of Assessment

General Construction Traffic

For a development of this nature there is a need to transport general construction materials (concrete, aggregates, pipes, cabling, electrical components etc.) to the Proposed Development Site in standard Heavy Goods Vehicles (HGVs). This form of traffic results in a temporary intensification of HGV traffic on the public road network.

The scale of intensification fluctuates depending on the size of the development and the phase of construction. Construction workers would also generate a small amount of traffic when commuting to/from the Proposed Development Site during the construction and operational phases.

General construction traffic would route to the Proposed Development Site via the A75(T) and then B727 and forestry tracks to the main Proposed Development Site access or via the A762 to access the Solar Development.



Abnormal Loads (AL) Vehicles

The most logistically challenging traffic and transport characteristic associated with wind farm developments is the need to transport the wind turbine components to the Proposed Development Site. The preferred Port of Entry (PoE) for the turbine components has been identified as the King George V (KGV) Docks in Glasgow from where the AL vehicles would navigate onto the M8 motorway and then onto the M74 Trunk Road. The AL would then travel to the Proposed Development Site via the following route:

- From KGV docks onto the M8;
- Transporter vehicles would then join the M74 from the M8 to travel south-east towards Abington where the route continues onto the A74(M);
- The vehicles would then join the M6 and continue to Carlisle;
- At Carlisle, the vehicles would exit the M6 at Rose Hill Roundabout to return back onto the M6 to head north-east;
- The transporters would exit the M6 at Grena Green to join the A75(T) to heading west through Dumfries; and
- From the A75(T) the vehicles would turn onto the B727 and then travel to the Proposed Development Site access point via forestry tracks.

Some mitigation measures would be required within the adopted road boundary at a number of locations on the local road network to accommodate the size of the turbine components for the Proposed Development, as detailed in **Technical Appendix 11-**1 in **Volume 3** of this EIA Report.

Effects Scoped Out

On the basis of the desk-based study undertaken and experience from other relevant projects, the following topic areas have been scoped out of detailed assessment.

Operational Phase

Once the Proposed Development is operational, the amount of traffic generated would be minimal and would relate to maintenance of the wind turbines, solar, and BESS facilities. Vehicles used for maintenance are likely to be utility vehicles (typically 4x4s or light goods vehicles (LGVs)). There may, on rare occasions, be the need for HGVs or abnormal load vehicles to access the Proposed Development Site if larger components need replaced.

Decommissioning Phase

Consent and deemed planning permission for the Proposed Development is sought for a 40-year period, after which time the Proposed Development will be decommissioned unless a further application is submitted for an operational extension. Traffic associated with the decommissioning stage is anticipated to be significantly less than that generated during construction.

Given the timescales involved and the likelihood for changes to the baseline situation during this period, the transport and access effects of decommissioning are not assessed further.



Peak Hour Congestion

The effect of construction related vehicles on the road network is considered unlikely to be significant in terms of peak hour congestion as deliveries would be spread out across the day. Therefore, detailed junction capacity assessments have not been undertaken. A full schedule of HGV trips associated with the construction phase of the Proposed Development is provided in **Table 11-8**.

Access Tracks and Beyond the Study Area

The effect of increased traffic associated with the Proposed Development on existing access tracks within the Proposed Development Site is not anticipated to have a discernible environmental effect and is, therefore not appraised in this Chapter. The effects of the Proposed Development on the local public road network are included.

It is anticipated that the volume of traffic associated with the construction of the Proposed Development would not have a discernible effect on roads and sensitive receptors outwith the Study Area as the effects of traffic are diluted with increasing distance from the point of origin.

11.4.2 Study Area

The Study Area for the assessment of transport and access is indicated by **Figure 11-1** in **Volume 4** of this EIA Report and has been predicated on the access points to the Proposed Development Site and the proposed road routes to the access points. To determine appropriate access routes, detailed consideration and assessment of the surrounding road network has been undertaken and the location of nearby sensitive receptors has been considered.

The Proposed Development is located 7km north east of Gatehouse of Fleet and 10km west of Castle Douglas. The A75(T) trunk road lies to the south of the Proposed Development Site.

To the east, the A75(T) connects with the A74(M) / M6 motorway which in turn then provides access to the KGV docks in Glasgow which would be used to import turbine components. To the west, the A75 trunk road connects with the A77 trunk road at Stranraer so there is a good strategic road network serving the Proposed Development.

The main access to the Proposed Development would be from the southwest travelling north on the B727 before turning onto an established (private and Forestry Land Scotland) forestry track through the Glengap Forest for approximately 9km before entering the Proposed Development Site from the south.

Access to the Solar Development would be via a separate access point to the east via the A762 which would be reached via the A75(T).

Abnormal Loads are likely to be transported from KGV Docks in Glasgow. The abnormal loads route would involve using the M8, M74, A74(M), M6 and A75 trunk roads as well as a short section of the local road network to reach the Proposed Development Site. An abnormal loads assessment is provided in **Technical Appendix 11-1** in **Volume 3** of this EIA Report.

The Study Area for the assessment of transport and access (as indicated in **Figure 11-1** in **Volume 4** of this EIA Report) can therefore be considered as:

• The A75(T) between Dumfries and Newton Stewart;



- The A762; and
- The B727.

The main sensitive receptors to increased traffic levels and associated environmental effects are likely to be residents and existing users of the study area road links.

It is considered unlikely that there would be any significant effects on the road network outside of the study area identified above as traffic will be diluted across the road network beyond these points.

11.4.3 Baseline Data Collection

Traffic data has been obtained from the Transport Scotland National Traffic Data System (NTDS) for the A75(T).

Traffic data for the B727 and A762 has been obtained from a seven day Automatic Traffic Count (ATC) survey carried out in March 2025.

Traffic flows have been factored up where necessary to represent the current baseline year (2025) and the anticipated year of construction (2028) using the National Road Traffic Forecast (NRTF) "low growth" factors.

Accident data has been obtained from Transport Scotland for the trunk road within the Study Area (A75(T)) for the most recent five year period. The Crashmap website has been utilised to determine the number of accidents that have occurred along the remaining road links within the identified Study Area using the most recent available data (2019 to 2023).

11.4.4 Assessment Methodology

Assessment of Potential Effects

The assessment of effects is based on the project description as outlined in **Chapter 3**: **Description of Development** in **Volume 2** of this EIA Report.

Guidance for the assessment of the environmental effects of generated traffic is provided in "the IEMA Guidelines (IEMA, 2023)". The document is the only guidance document currently available that sets out a methodology for assessing likely significant environmental effects where a Proposed Development is likely to give rise to changes in traffic flows.

The assessment is structured around the consideration of potential environmental effects relating to traffic and transport, as identified by the IEMA Guidelines and including the following:

- Severance of communities;
- Road vehicle driver and passenger delay;
- Non-motorised user delay and amenity;
- Fear and intimidation on and by road users;
- Road user and pedestrian safety; and
- Hazardous and large loads.

There are no hazardous loads associated with the Proposed Development



The guidance suggests that in order to determine the scale and extent of the assessment and the level of impact the development will have on the surrounding road network, the following two 'rules' should be followed.

- Rule 1 Include road links where traffic flows are predicted to increase by more than 30%; and
- Rule 2 Include any other specifically sensitive area where traffic flows are predicted to increase by 10% or more.

These rules are used to identify the road links within the Study Area where a full assessment of the potential environmental effects associated with an intensification in road traffic may be required. It is noted that further consideration should be given to road user and pedestrian safety as well as driver delay effects even if the above thresholds are not exceeded.

Assessment of Significance

The following section sets out the methodology used to assess the significance of effects at locations along the proposed public road routes within the Study Area where total traffic levels or the level of HGV traffic exceed the screening thresholds set out by IEMA (2023).

Sensitivity

The sensitivity to change in traffic levels of any given road segment and the receptors located along that road segment are generally assessed by considering the residual capacity of the network under existing conditions.

Where there is a high degree of residual capacity, the network may readily accept and absorb an increase in traffic and therefore, the sensitivity may be said to be low. Conversely, where the existing traffic levels are high compared to the road capacity, there is little spare capacity, and the sensitivity to change in traffic levels will be considered to be high.

Consideration has been given to the composition of the traffic on the road network, under both existing and proposed conditions. For example, LGVs have less effect on traffic and the road system than HGVs. Similarly, HGVs can have less effect than AL vehicles, depending on the frequency of the Als.

The criteria that has been used to make judgements on the sensitivity of the receptor(s) are presented in **Table 11-2**.

Sensitivity	Description
High	Receptors of high importance and value on international or national scales. Designated or heritage areas of unique value. Large settlements with a large number of public services and facilities, traffic control measures and regular use by pedestrians and cyclists. Minor and historic roads not generally suitable for frequent HGV traffic.
Medium	Receptors of some regional importance. Medium-sized settlements with some public services facilities and infrastructure and some traffic control measures, including some accommodation for pedestrians and cyclists. Roads generally capable of supporting regular HGV traffic.
Low	Receptors with low regional importance. Typically, small settlements with few facilities and no traffic control measures and with nearby trunk or A-class

Table 11-2: Framework for Determining Sensitivity of Receptors



Sensitivity	Description
	roads that are able to accommodate HGV traffic.
Negligible	Users not sensitive to transport effects. Includes very small settlements and roads with no significant settlements including new strategic trunk roads or motorways.

Magnitude

The magnitude of traffic change is a function of the existing traffic volumes, the percentage increase and change due to a development, changes in the type of traffic and the temporal distribution of traffic (day of week, time of day). The determination of magnitude has been undertaken by reviewing the Proposed Development, establishing the parameters of the receptors that may be affected and quantifying these effects utilising the IEMA Guidelines (2023) and professional judgement.

The criteria that have been used to make judgement on the magnitude of change on the receptor(s) is presented in **Table 11-3**.

Magnitude	Description
Major	Generally, a rule of >90 % (or >70 % at sensitive receptors) change in traffic is considered to be a major magnitude.
Moderate	Generally, a rule of 60 % - 90 % (or 40 % - 70 % at sensitive receptors) change in traffic is considered to be a moderate magnitude.
Minor	Generally, a rule of 30 – 60 % (or 10 % - 40 % at sensitive receptors) change in traffic is considered to be a minor magnitude.
Negligible	Generally, a rule of $<30\%$ (or $<10\%$ at sensitive receptors) change in traffic is considered to be a negligible magnitude.

Table 11-3: Framework for Determining Magnitude of Change

Significance

As a guide to inform the assessment, but not as a substitute for professional judgement, criteria for determining the significance of traffic related effects are set out in **Table 11-4.** This is based on combining the magnitude of change with the receptor sensitivity.

Table 11-4: Significance Criteria Matrix

	Magnitude of Chan	ge		
Sensitivity	Major	Moderate	Minor	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Minor
Low	Moderate	Minor	Minor	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Significance is categorised as major, moderate, minor or negligible. Effects in the grey shaded cells are considered to be significant. Effects judged to be of minor or negligible significance are considered not significant.



11.4.5 Difficulties and Uncertainties

The assessment provided in this Chapter is based upon average traffic flows obtained from the Transport Scotland NTDS, Department for Transport (DfT) and project specific 7day ATC surveys. It is expected that there may be localised peaks and seasonal variation in baseline traffic flows on the road network within the Study Area, however for the purpose of this assessment the traffic data utilised is assumed to be representative of baseline conditions.

11.5 Baseline Conditions

11.5.1 Study Area Road Network

The following paragraphs detail the baseline conditions of the road links identified as being within the Study Area.

A75

The A75 is a trunk road in Scotland, linking Stranraer on the west coast with the A74(M) at Gretna, close to the border with England and the M6 motorway. This strategic route connects southern Scotland / northern England with Northern Ireland via the ferry port at Cairnryan.

The A75 is typically a two-way single carriageway of approximately 7.3m in width, with a few dual carriageway sections and sections with a third overtaking lane. The road is subject to the national speed limit, with the exception of a few sections where the road passes through settlements.

Within the Study Area, the A75(T) routes in a primarily east / west direction from Dumfries in the east to Newton Stewart in the west. The A75(T) bypasses both of those settlements and some smaller towns and villages along the route and travels through the villages of Crocketford and Springholm.

The impact of Proposed Development traffic on the A75(T) would be considered against IEMA 'Rule 1' and the 30 % threshold of increase in total traffic or HGV levels would apply i.e. this road link is not considered specifically 'sensitive'.

A762

The A762 extends south from St John's Town of Dalry for approximately 33km to Tongland Bridge. The A762 comes to a temporary end at Ringford on the A75(T), then continues to the south of the A75(T) at Valleyfield, approximately 1.6km south of Ringford.

The A762 is a rural two-way single carriageway road of approximately 5 to 6m in width and is subject to the national speed limit, with the exception of sections through villages such as Ringford and Laurieston where the speed limit reduces to 30mph.

Only a short section of the A762 from the A75(T) to the Solar Development Proposed Development Site access point is part of the Study Area, and only a small volume of construction traffic associated with the Solar development would utilise this route.

The impact of Proposed Development traffic on the A762 would be considered against IEMA 'Rule 2' and the 10 % threshold of increase in total traffic or HGV levels would



apply. This road link is considered sensitive due to passing through the village of Ringford.

B727

The B727 is a rural two way carriageway of approximately 6.5m in width which routes 33km from Dalbeattie, via Kirkcudbright to Gatehouse of Fleet.

Within the Study Area the B727 routes north from the A75(T) for approximately 2.3km, before the route to Proposed Development Site turns onto an established (private and Forestry Land Scotland) forestry track through the Glengap Forest. This section of the B727 is subject to the national speed limit.

This section of the B727 forms the main access route for the Proposed Development and it is assumed that the majority of construction traffic (with the exception of the Solar Development traffic) would utilise this route.

The impact of Proposed Development traffic on the B727 would be considered against IEMA 'Rule 1' and the 30 % threshold of increase in total traffic or HGV levels would applyi.e. this road link is not considered specifically 'sensitive'.

11.5.2 Baseline Traffic Flows

Table 11-5 indicates the two-way Average Daily Traffic (ADT) in the Study Area and the percentage of traffic that is classified as HGVs for the 2025 baseline year and 2028 anticipated year of construction.

Counter Location	2025 ADT	2025 HGV	2028 ADT	2028 HGV	Percentage HGV
1. A75(T) Gatehouse of Fleet	5,685	1,217	5,771	1,235	21.4%
2. A75(T) Newton Stewart	6206	1,843	6,300	1,871	29.7%
3. A762	182	24	185	24	13.2%
4. B727	1,590	186	1,614	189	11.7%

Table 11-5: Study Area Baseline Traffic Flows

Table 11-5 indicates the relatively high baseline percentages of HGV traffic using the A75(T). The A75(T) connects the ferry ports at Cairnryan to the A74(M) at Gretna and therefore is a key route for HGV traffic in the south west of Scotland.

11.5.3 Road Safety

Accident data has been obtained from Transport Scotland for the trunk road within the Study Area (A75(T)) for the most recent five year period to March 2025.

The Crashmap website has been utilised to determine the number of accidents that have occurred on the remaining road links within the study area using the most recent available data (2019 to 2023). The results of this investigation are indicated by **Table 11-6** with additional commentary provided on fatal accidents where applicable.

Table 11-6: Accident Statistics

Road Link	Slight	Serious	Fatal	Comments
A75	30	20	2	Fatal accident approximately 2km south of Springholm in 2024 involving a car and a goods



Road Link	Slight	Serious	Fatal	Comments
				vehicle and two casualties. Fatal accident approximately 600m east of Henderland in 2022 involving one vehicle and one casualty.
A762	1	0	0	
B727	0	0	0	

Table 11-6 indicates that there was one slight accident recorded on the A762 and no accidents recorded on the B727 within the study area during the period 2019 to 2023. On the A75(T) there were a total of 30 slight, 20 serious and two fatal accidents within the study area, which is fairly typical of trunk roads of this rural nature carrying high volumes of traffic.

The accidents are generally spread out along the road and there are no identified locations where it would be considered that special consideration would be required in relation to this application.

11.6 Future Baseline

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

11.7 Embedded Mitigation

The following mitigation measures are embedded in the design of the Proposed Development:

- Existing tracks would be utilised as much as possible to reduce the need for new access track and thus minimising the construction traffic and resulting environmental impact; and
- On-site borrow pits have been identified and would be used to reduce the volume of materials required to be transported to the Proposed Development Site, thus minimising the construction traffic and resulting environmental impact. For the purposes of the assessment, 100% of stone has been assumed to come from off-site to demonstrate a 'worst-case' scenario in line with Dumfries and Galloway Council requirements. In practice, it is expected that a large proportion of stone requirements can be met by utilising the on-site borrow pits which could account for around half of the required stone quantity. Further intrusive investigation work will be undertaken post-planning to test the quantity and quality of the available stone.



11.8 Potential Effects

11.8.1 Construction Effects

Construction Traffic

Construction traffic associated with the Proposed Development would comprise of construction workers, HGVs / LGVs carrying construction materials and plant, and abnormal load vehicles carrying the main wind turbine components.

Estimates of traffic generation associated with the construction phase of the Proposed Development have been calculated from first principles and consider the following activities:

- Highway modifications to enable vehicles to access the Proposed Development Site from the strategic and local highway network;
- Installation of construction compound/storage area for Proposed Development Site office facilities and storage of materials and components;
- Importation of aggregate for access track, hard-standings and turbine base construction;
- Construction of new access tracks to reach the turbine locations;
- Construction of turbine foundations and crane hard-standings;
- Excavation of trenches and cable laying;
- Delivery and installation of wind turbines;
- Delivery and installation of BESS components;
- Earthworks and preparation of Solar Development area;
- Delivery and installation of Solar Development components;
- Construction of substation;
- Commissioning of equipment; and
- Reinstatement, landscaping, removal of temporary Proposed Development Site offices, reseeding verges and areas around turbine bases.

In order to calculate a robust scenario, information was gathered regarding the materials required and the size of average loads associated with the construction vehicles. **Table 11-7** includes an estimate of construction vehicle numbers required for each task during the construction period.

Table 11-7: Estimated No. of HGV Trips during Construction

Construction Task	Vehicle Type	Approximate No. of Loads
Site Establishment	Low Loader and Dump Truck	120
General site deliveries	Low Loader and Dump Truck	120
Imported stone (access roads, crane hardstanding areas, other hardstanding areas)*	Dump Truck	7,410
Reinforcement	Low Loader	22
Foundations (off-site batched concrete)	Concrete Wagon	3,404



Construction Task	Vehicle Type	Approximate No. of Loads
Cabling deliveries and sand	Low Loader	300
Geotextile separators	Low Loader	110
Delivery of HV electrical items	Dump Truck	30
Delivery of BESS components	Various	80
Delivery of Solar components	Various	100
Construction of Substation	Various	100
Cranes and related lifting equipment	Crane Vehicle	42
Erection of turbines	Abnormal Loads	99
Site reinstatement and restoration	Various	60
Total (one-way trips)		11,997
Total (two-way trips)		23,994

*assumes 100% stone requirements are imported to the Proposed Development Site

For the purpose of providing a worst- case assessment, as requested by Dumfries and Galloway Council, it is assumed that 100% of the stone estimated to be required to construct the Proposed Development Site and would be sourced from an off-site location. In general, work hours are expected to be between 07:00 to 19:00 on weekdays and 07:00 to 13:00 on Saturdays which means that staff would generally arrive and depart outside the peak hours associated with the surrounding road network (typically 8:00 to 9:00 and 17:00 to 18:00). Turbine delivery, erection and commissioning activities may take place outwith these hours depending on weather conditions.

There is expected to be up to 30 personnel working on-site at any one time. It is important to note that the number of personnel on-site would vary during the construction process. It is anticipated that this would result in approximately 60 two-way daily private car/LGV trips to the Proposed Development Site associated with construction staff/welfare.

This equates to a maximum of 30 arrivals and 30 departures at the start and end of the working day. In these circumstances, the effects of car/LGV traffic are considered to be negligible, therefore not significant, however, to represent a robust assessment this number of non-HGV trips has been included in the assessment.

It is anticipated that ALs would require car or LGV escort vehicles whilst transporting the turbines. This impact is considered to be negligible and not significant and has therefore not been assessed further.

The construction of the Proposed Development is anticipated to take approximately 12 to 18 months. For the purpose of providing a robust assessment, a 12 month construction phase has been assumed as this scenario would result in the highest concentration of construction traffic on the road network.



Using the indicative construction programme, the number of construction trips that are anticipated to visit the Proposed Development Site for each month of the construction period has been calculated and is presented within **Table 11-8**.



Table 11-8: Estimated No. of HGV Trips per Month

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Construction Task													
Site Establishment	40	40	40										120
General site deliveries	20	20	20	15	10	5	5	5	5	5	5	5	120
Imported stone	1,370	1,370	1,370	1,100	1,100	1100							7,410
Reinforcement				6	6	6	6						22
Foundations (concrete)				851	851	851	851						3,404
Cabling / sand							75	75	75	75			300
Geotextile separators				28	28	28	28						110
Delivery of HV electrical items						15	15						30
Delivery of BESS components							40	40					80
Delivery of Solar components							34	33	33				100
Construction of Substation								34	33	33			100
Cranes and related lifting equipment						21	21						42
Erection of turbines							25	25	25	24			99
Site reinstatement and restoration											30	30	60
Total (one-way trips)	1,430	1,430	1,430	1,999	1,994	2,025	1,099	212	171	137	35	35	11,997
Total (two-way trips)	2,860	2,860	2,860	3,998	3,988	4,050	2,198	424	342	274	70	70	23,995



Table 11-8 indicates that the HGV trips are relatively well spread out over the duration of the construction period. Month six has the highest number of trips associated with the importation of stone for the construction and upgrading of the Proposed Development Site access track network. The final five months are very light in terms of HGV trips when compared with the earlier months.

Abnormal Load (AL) Movements

Table 11-8 indicates that ALs (erection of turbines) would only be transported over four months of the 12-month construction period. Assuming 25 inbound AL vehicle trips per month, this equates to approximately six inbound trips per week. AL vehicles are restricted in the hours that they can operate and a maximum of four ALs would be transported on any given day. It is also noted that AL vehicles will retract to the size of an HGV for their return journey once the loads have been delivered to the destination, equating to six inbound AL trips plus six outbound HGV trips per week.

The movement of ALs may be spread out evenly across the day of the week or concentrated over 2 – 3 days within each week, therefore meaning that there would be no movements on the remaining days of the week. The schedule of movements of ALs would be agreed upon following discussions with the hauliers and Police Scotland to ensure the least impact on the road network as possible.

Given this low number of vehicles, it is not anticipated that abnormal load vehicles would give rise to any likely significant environmental effects within the Study Area. As a result, no further assessment of the effect of AL vehicles has been undertaken.

Worst-case Assessment

The worst-case month for general construction traffic (HGVs) is Month six with 4,050 total (inbound plus outbound) HGV trips estimated. Assuming four weeks per month, this equates to approximately 1,013 HGVs trips per week (506 inbound and outbound respectively). Month six is therefore used to assess the impact and effects of the Proposed Development on the transport network.

This estimate of HGV movements assumes that 100% of stone requirements are imported.

The daily HGV trip generation for Month six is therefore estimated to be approximately 184 total trips (assuming 5.5 days per week). This equates to approximately 15 HGV trips per hour (7.5 inbound and 7.5 outbound), assuming a 12-hour working day. It is important to note that this number of trips applies to the worst-case month only which is Month six; all other months have a lower construction traffic generation, and from month eight to completion the number of construction related trips is significantly less.

Traffic Distribution

Construction traffic would route to the Proposed Development Site via the A75(T) from either the west (Stranraer) or the east (Dumfries and the A74(M)).

The majority of construction traffic would then route to the Proposed Development Site via the B727 towards Gatehouse of Fleet and then forestry tracks to the Proposed Development Site access point. Construction traffic serving the Solar Development would access the Proposed Development Site via the A762.



In order to assess a robust scenario, 100% of construction traffic has been applied to the south west route to the main Proposed Development Site access via the A75(T)/B727 and forestry tracks.

Only construction traffic associated with the Solar Development would access the Proposed Development Site by the northern access via the A762. As such, 10% of construction traffic has been applied to this route. It is also likely that construction traffic associated with the Solar Development would occur outwith the peak months of the construction phase.

Based on these routing assumptions, the traffic distribution which has been applied is detailed in **Table 11-9**.

Route to Site	% of Development Traffic Applied
A75 (T)	100%
A762	10%
B727	100%

Table 11-9: Construction Traffic Distribution

It is important to note that this represents a worst-case scenario as this impact could not occur simultaneously on all road links.

Construction Traffic Impact

Table 11-10 details the daily percentage increases in traffic flows associated with the construction of the Proposed Development at the traffic counters within the Study Area during the worst-case month. The location of the traffic counters is illustrated in **Figure 11-2** in **Volume 4** of this EIA Report.

Table	11-10:	Construction	Traffic	Impact	(Month 6)	
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	1. A75 Gatehouse of Fleet	2. A75 Castle Douglas	3. A762	4. B727
2028 ADT	5771	6300	185	1,614
2028 HGV	1235	1,871	24	189
Month 6 daily HGV	184	184	18	184
Month 6 daily staff trips	60	60	6	60
2028 ADT + Month 6 total dev traffic	6015	6544	209	1858
2028 HGV + Month 6 HGV traffic	1419	2055	43	373
Percentage increase in total traffic due to the Proposed Development	4.2%	3.9%	13.2%	15.1%
Percentage increase in HGVs due to the Proposed Development	14.9%	9.8%	75.6%	97.5%

Please note minor variances due to rounding.



Table 11-10 indicates that the temporary increase in daily total and HGV traffic levels during the worst-case month is considered to be negligible (<30%) at both counter locations on the A75(T) therefore, in accordance with IEMA guidelines, no further detailed assessment of the A75(T) is required.

Total traffic and HGV traffic levels along the A762 are anticipated to increase by 13.2% and 75.6 % respectively during the worst case month of construction (month six).

Total traffic and HGV traffic levels along the B727 are anticipated to increase by 15.1% and 97.5 % respectively during the worst case month of construction (month six).

The high HGV percentage increases indicated on the A762 and B727 are mainly attributable to the low baseline traffic and HGV levels on the routes. Nevertheless, this level of increase exceeds the IEMA Rule 1 threshold (30%) and requires a full assessment of effects to be undertaken for the affected road links which is detailed below.

Detailed Assessment of Construction Effects

Severance of Communities

The IEMA Guidelines (2023) advise that "Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure".

The potential for traffic associated with the Proposed Development to cause severance is assessed on a case by case basis using professional judgement where non-negligible traffic increases are predicted on roads through residential settlements.

Increased severance can result in the isolation of areas of a settlement or individual properties. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by infrastructure. Severance effects could equally be applied to residents, motorists or pedestrians. **Table 11-11** provides an assessment of the effect of construction traffic on severance of communities for each road link.

Road Link	Magnitude of Change	Sensitivity	Justification	Significance
A762	Moderate	Low	The short section of the A762 within the Study Area passes through the small village of Ringford, however the small number of HGV trips likely to route this way to the solar development (18 per day) is unlikely to result in a significant severance effect.	Minor - Not Significant
B727	Major	Negligible	The short section of the B727 within the Study Area does not pass through any communities and there are no residential properties located along the route, only access to a few isolated individual houses and farms, so an increased severance effect is not likely.	Minor - Not Significant

Table 11-11: Assessment of Severance of Commu

Road Vehicle Driver and Passenger Delay

Some driver delay may be experienced when construction traffic is accessing the Proposed Development Site. The IEMA Guidelines (2023) advise "delays are only likely to be significant when the traffic on the network surrounding the Site is already at, or close to, the capacity of the system".



Traffic delay to non-development traffic may occur at several points on the network surrounding the Proposed Development Site including:

- At the Proposed Development Site entrance where there would be additional turning movements;
- At intersections along the local road network which might be affected by increased traffic; and
- At side roads where the ability to find gaps in traffic may be reduced, thereby lengthening delays.

 Table 11-12 provides an assessment of the effect of construction traffic on road vehicle

 driver and passenger delay for each road link.

Table 11-12: Assessment of Road Vehicle Driver and Passenger Delay

Road Link	Magnitude of Change	Sensitivity	Justification	Significance
A762	Moderate	Negligible	The baseline traffic levels on this rural road are low meaning the road has capacity for additional traffic. The Proposed Development is anticipated to contribute approximately 18 HGV trips per day on the A762 which is unlikely to cause an increased delay effect.	Negligible - Not Significant
B727	Major	Low	There are limited junctions along the short section of the B727 within the Study Area which provide access to farms. An increased delay effect may occur at or near the junction with the forest track.	Moderate - Significant

Non-Motorised User Delay and Amenity

The IEMA Guidelines advise that, "The assessment of pedestrian delay serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads".

Traffic volumes, traffic composition, traffic speed, the existence of pedestrian footways and the existence of pedestrian crossings all contribute to the level of general pleasantness experienced by pedestrians and other vulnerable road users. **Table 11-13** provides an assessment of the effect of construction traffic on non-motorised user delay and amenity for each road link.

Road Link	Magnitude of Change	Sensitivity	Justification	Significance
A762	Moderate	Medium	The short section of the A762 within the Study Area passes through the small village of Ringford, and recreational road user may be present, however the small number of HGV trips likely to route this way to the solar development (18 per day) is unlikely to result in a significant non- motorised user delay effect.	Minor - Not Significant
B727	Major	Low	There are no properties or facilities which would generate pedestrian movements on the B727 within the Study Area. Recreational road users may be sensitive to the increase in number of	Moderate - Significant

 Table 11-13: Assessment of Non-Motorised User Delay and Amenity



Road Link	Magnitude of Change	Sensitivity	Justification	Significance
			HGV movements (184 additional HGVs per day).	

Fear and Intimidation on and by Road Users

The IEMA Guidelines (2023) state that "a further environmental impact that affects people is the fear and intimidation created by all moving objects", with the extent of fear and intimidation dependent upon:

- The total volume of traffic;
- The heavy vehicle composition;
- The speed these vehicles are passing; and
- The proximity of traffic to people.

The majority of construction traffic will use the B727 to reach the main Proposed Development Site access, whilst only construction traffic related to the Solar Development would utilise the A762.

The main receptor likely to be sensitive to increased fear and intimidation effects would be residents of Ringford and cyclists and other recreational road users on both routes. Fear and intimidation levels may increase due to a higher proportion of HGVs using the route.

Based on the IEMA weighting system, the baseline level of fear and intimidation is considered 'moderate', and the magnitude of change due to the impact of construction traffic is considered 'Low'. This effect is considered **not significant** for both the B727 and A762.

Road User and Pedestrian Safety

Accident data for the road links within the Study Area has been summarised in **Table 11-6.** The data indicates that one slight accident was recorded on the A762 and none on the B727 within the Study Area within the most recent five year period of available data.

An approximate calculation has been undertaken to quantify the level of accident risk that could be expected due to an increase in traffic associated with the Proposed Development. The likelihood of an accident occurring is commonly expressed in accidents per million vehicle-km. Accidents that are appraised in relation to transport are predominantly those in which personal injury is sustained by those involved (personal injury accidents (PIAs).

For the purpose of this calculation, it has been assumed that the length of the A762 is 4.2km and the B727 is 2.3km, which, for the purpose of this assessment can be generally classified as 'rural typical single carriageway' in accordance with the criteria set out within DMRB.

Accident rates from the DMRB for this standard of road are:

• Rural typical single carriageway: 0.404 PIA per million vehicle-km.

Assuming a two-way trip on the 6.5km route for each of the 11,997 vehicles during the construction period (as set out in **Table 11-7**), a total distance of 155,966.2 km is obtained. Based on the rate above; this suggests 0.0594 accidents during the construction period associated with the additional traffic.



It is considered that the magnitude of change is negligible but receptor sensitivity to this effect is always considered as high. When combined, the effect can be classified as **minor and not significant**.

Hazardous and Large Loads

There are no hazardous loads associated with the Proposed Development.

The IEMA Guidelines (2023) state that, "The movement of large (abnormal) loads is regulated by National Highways and will be subject to separate agreement with the relevant highway authorities and police".

The number and schedule of AL trips associated with the Proposed Development is detailed in **Table 11-8** and equates to approximately six ALs per week over Months seven to ten of the construction programme. This impact is considered to be **negligible and not significant**.

11.8.2 Cumulative Effects

Cumulative effects have been considered for other developments in the vicinity of the Proposed Development, excluding operational wind farms as the traffic impacts relate primarily to the construction phase. These developments either have planning consent but are yet to be constructed or are currently in planning and could utilise a common access route for general construction traffic.

The potential for likely significant cumulative effects has been assessed by reviewing data available from the Traffic and Transport Chapters within the respective EIA Reports for the relevant developments.

Whilst the developments identified may share a similar route for AL vehicles, these deliveries would not be permitted to occur at the same time and as such there is no scope for a cumulative effect of AL movements.

Consented Wind Farms

Arecleoch Wind Farm Extension

Arecleoch Wind Farm extension gained consent in November 2021 following a public inquiry. The extension lies to the east of the existing 60 turbine Arecleoch Wind Farm and is comprised of 13 turbines of 200m tip height. The site of the development is located approximately 3km south west of Barrhill with access taken from the A714. As such the Arecleoch Extension and the Proposed Development may both utilise the A75(T) as a route to site, however the Arecleoch Extension is expected to be constructed and operational in 2025 and therefore the peak construction periods are highly unlikely to coincide.

Kilgallioch Wind Farm Extension

Consent was granted for the nine turbine Kilgallioch Extension in December 2021. The development is an extension to the existing 96 turbine Kilgallioch Wind Farm. Access to the Kilgallioch Extension will be via the existing Kilgallioch Wind Farm from the A714 at Wheeb Bridge therefore sharing the construction traffic route with the Proposed Development via the A75(T), however due to the two developments being at different stages of planning it is highly unlikely that the peak construction periods would coincide.



Chirmorie Wind Farm

Consent was originally granted in 2018 for the 21 turbine Chirmorie Wind Farm, approximately 7km southwest of Barrhill. In 2020 consent was granted for a variation which included a new access from the A714. In 2021 a further variation was granted consent which included an increase to tip height of all 21 turbines from 146.5m to 149.9m, and an increase in blade length from 57m to 68m. The second variation also included a temporary construction access route from Barhill and an alternative access route from the A77 near Innermessan via the consented Stranoch Wind Farm.

Due to the access via the A714, there is a potential overlap in construction traffic route with the Proposed Development on the A75(T), however due to the two developments being at different stages of planning it is highly unlikely that the peak construction periods would coincide.

Garvilland Wind Farm

Garvilland Wind Farm gained consent in December 2023 from Dumfries and Galloway Council for a five turbine development located approximately 4.5km north of Glenluce. Due to the location of the development and its proximity to the A75, the only potential overlap in construction traffic route would be the A75(T). The A75 is a trunk road with relatively low traffic volumes and sufficient capacity to accommodate the construction traffic generated by a five turbine development in addition to the Proposed Development without reaching IEMA Guidelines (2023) thresholds.

Artfield Forest Wind Farm

Artfield Forest Wind Farm gained consent in February 2023 and comprises 12 turbines located approximately 8km northwest of Kirkcowan and 15km west of Newton Stewart. The only potential overlap in construction traffic route would be the A75(T) which has sufficient capacity to accommodate additional traffic including HGV's. It is unlikely that there would be an overlap in the peak months of construction as both developments are at different stages of the planning process, nevertheless, both wind farm developments would implement a CTMP which would ensure that deliveries are scheduled appropriately to minimise the impact to the public road network and ensure that discernible cumulative effects are avoided.

Barlockhart Moor Wind Farm Extension

Barlockhart Moor Extension gained consent in February 2022 and comprises four turbines as an extension to the existing Barlockhart Moor Wind Farm, south of Glenluce. The development is accessed via the A747 with potential overlap in construction traffic route with the Proposed Development on the A75(T).

The A75 is a good standard trunk road with relatively low traffic volumes and sufficient capacity to accommodate the construction traffic generated by a four turbine development in addition to the Proposed Development without reaching IEMA Guidelines (2023) thresholds.

Mid Moile Wind Farm

Mid Moile Wind Farm gained consent in January 2025 and comprises up to 15 turbines, located immediately south of the existing Glen App wind farm. The development is accessed via the A77 with potential overlap in construction traffic route with the Proposed Development on the A75(T).



Information in the EIA Report Chapter for the development indicates that during the peak month of construction the development could contribute 69 daily two way HGV movements to the A75(T). It is unlikely that there would be an overlap in the peak months of construction as both developments are at different stages of the planning process, nevertheless, both wind farm developments would implement a CTMP, which would ensure that deliveries are scheduled appropriately to minimise the impact to the public road network and ensure that discernible cumulative effects are avoided.

Wind Farms in Planning

Blair Hill Wind Farm

An application was submitted in February 2025 for Blair Hill Wind Farm which comprises 14 turbines, located approximately 6km north of Newton Stewart. Access to the site would be via the A75 and A712 therefore a potential overlap of construction traffic routes would be on the A75.

Information from the Traffic and Transport EIA Report Chapter for the development indicates that during the worst case month of construction (Month 13) the development would contribute an additional 60 daily two way HGV trips on the A75(T).

It is unlikely that there would be an overlap in the peak months of construction as both developments are at different stages of the planning process, nevertheless, both wind farm developments would implement a CTMP, which would ensure that deliveries are scheduled appropriately to minimise the impact to the public road network and ensure that discernible cumulative effects are avoided.

Glenvernoch Wind Farm

Glenvernoch Wind Farm is currently at planning stage and comprises 13 turbines, located north of Newton Stewart and accessed via the A714. Construction traffic route to the site would be via the A75 and A714 therefore a potential overlap with the Proposed Development on the A75.

Information from the Traffic and Transport EIA Report Chapter for the development indicates that during the worst case month of construction (Month 6) the development would contribute an additional 112 daily two way HGV trips on the A75(T).

It is unlikely that there would be an overlap in the peak months of construction as both developments are at different stages of the planning process, nevertheless, both wind farm developments would implement a CTMP, which would ensure that deliveries are scheduled appropriately to minimise the impact to the public road network and ensure that discernible cumulative effects are avoided.

Craig Nab Wind Farm

An application was submitted to Dumfries and Galloway Council in December 2024 for a five turbine wind farm with battery energy storage system located near New Luce, approximately 14km east of Stranraer and 17km west of Newton Stewart.

Information from the EIA Report Chapter for the development indicates that the site would be accessed from the U89W with construction traffic generally approaching from the south via the A75 and routing via the via the A747, U80W, Carscreugh Wind Farm access track network, C3W and Glenluce Wind Farm access track network.

The A75(T) is a good standard trunk road with relatively low traffic volumes and sufficient capacity to accommodate the construction traffic generated by a five



turbine development in addition to the Proposed Development, therefore no cumulative effects are anticipated.

Cumulative Summary

In summary, it is highly unlikely that the peak construction period associated with another wind farm development in the area would overlap with the peak construction period of the Proposed Development as the applications are at different stages in the planning process and each development has varying lengths of construction periods.

The high traffic generating activities, such as the importation of stone and concrete, only occur over a few months of the whole construction period for each development. It is unlikely that the local capacity for concrete and stone production could supply several developments at once, therefore, high traffic generating activities would naturally be staggered.

The potential overlap in construction traffic routes with the Proposed Development is limited to the A75(T) with no cumulative developments utilising the B727 or A762. As stated previously, the A75(T) is a good standard trunk road with relatively low traffic volumes and sufficient capacity to accommodate additional HGV traffic.

Furthermore, implementation of a CTMP for each development would ensure that there are open lines of communication with Dumfries and Galloway Council, Police Scotland, Transport Scotland, other stakeholders, and wind farm developers to monitor the progress of the construction stages. This process would flag whether construction HGV traffic is reaching unacceptable levels and would ensure that action is taken accordingly to minimise effects.

Due to all of the above, it is considered highly unlikely that the peak construction period would overlap for multiple consented/in planning wind farms at the same time as the Proposed Development, and therefore cumulative effects are considered **not** significant.

11.9 Additional Mitigation Measures

The assessment predicts that, prior to mitigation measures, the effects of road vehicle driver and passenger delay, and non-motorised user delay and amenity would be significant along the B727 within the Study Area, as a result of increased levels of HGVs associated with construction of the Proposed Development. Therefore, mitigation is required to address these likely significant effects.

It is therefore proposed to prepare and implement a comprehensive CTMP which is intended to mitigate the identified effects by ensuring that they are minimised as far as possible within the Study Area to a level which is considered to be not significant.

The CTMP would identify measures to reduce the number of construction vehicles as well as identifying measures to mitigate the impact of vehicles. The CTMP would identify the programme of works, the agreed routes to the Proposed Development Site and details of a Proposed Development Site Liaison who would have responsibilities for managing traffic and transport impacts and effects. The CTMP would also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. Potential measures could include (but are not limited to):



- Immediately upon commencement, all deliveries, operatives and visitors to the Proposed Development Site would report to the security gate. This would be communicated to all early works contractors at their pre-start meeting;
- The main contractor would develop a logistics plan highlighting the access points for the project, loading and unloading areas, pedestrian / vehicular segregation, welfare, storage, security and material handling that would be enforced following full Proposed Development Site establishment;
- Approved haul routes would be identified to the Proposed Development Site and protocols put in place to ensure that HGVs adhere to these routes;
- All contractors would be provided with a Proposed Development Site induction pack containing information on delivery routes, any restrictions on routes and maximum load capacity for the internal access tracks;
- Temporary construction site signage would be erected along the identified construction traffic routes to warn other road users of construction activities and associated construction vehicles;
- A temporary construction traffic speed limit and/or temporary traffic signal controls could be imposed where considered appropriate such as on the B727 at the junction with the forestry track leading to the Site access;
- The construction material 'lay down' areas would allow for a staggered delivery schedule throughout the day, avoiding peak periods and unsociable hours (i.e., before 06:00 and after 22:00;
- An integral part of the progress meetings held with all trade contractors is the delivery schedule pro-forma. All contractors would be required to give details of proposed timing of material deliveries to the Proposed Development Site. At this stage, they would be given a specific area for delivery;
- The CTMP and the control measures therein would be included within all trade contractor tender enquiries to ensure early understanding and acceptance / compliance with the rules that would be enforced on this project;
- Under no circumstances would HGVs be allowed to lay-up in surrounding roads. All personnel in the team would be in contact with each other and with site management, who in turn would have mobile and telephone contact with the subcontractors;
- Roads would be maintained in a clean and safe condition; and
- A wheel washing / wheel cleaning facility would be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network.

The CTMP would ensure that there is signage along the construction routes to make residents aware of the additional HGV traffic and to provide the opportunity to plan ahead. The CTMP would ensure that construction HGVs do not travel during peak periods or at the start/end of the school day and that they adhere to a lowered speed limit. Each of these measures would contribute to minimising the level of effect experienced by residents and road users within the Study Area. An outline CTMP is provided in **Technical Appendix 11-2** in **Volume 3** of this EIA Report.



11.10 Assessment of Residual Effects

The assessment has been carried out considering the peak in construction traffic and any high percentage increase in HGV traffic, particularly on the B727 and A762, is reflective of the low baseline HGV volumes rather than significant volumes of construction traffic. Furthermore, it is important to recognise that all effects associated with increased construction traffic would be temporary and local in nature, and that this assessment has considered the worst-case possible impact at each location.

The residual effects after implementation of the CTMP are therefore considered to be **minor and not significant**.

11.11 Summary

This assessment has considered the effects on the local road network of HGV traffic associated with the construction phase of the Proposed Development.

The construction programme associated with the Proposed Development is anticipated to cover a 12 month period, during which 11,997 HGVs would access the Proposed Development Site equating to 184 daily total HGV trips (92 inbound plus 92 outbound) during the busiest construction month (Month 6). The movement of ALs is not anticipated to exceed six trips per week over the course of four months (with no overlap during the busiest construction months.

A robust assessment was undertaken based on a conservative approach for the total construction traffic movements and the worst-case scenario for each link. The impact of construction traffic could increase total traffic flows along the road links within the Study Area by the following:

- 4.2% on the A75(T) at Gatehouse of Fleet;
- 3.9% on the A75(T) at Castle Douglas;
- 13.2% on the A762; and
- 15.1% on the B727.

The percentage increase in HGVs associated with the worst-case month of the construction programme for the Proposed Development could increase HGV levels by the following:

- 14.9% on the A75(T) at Gatehouse of Fleet;
- 9.8% on the A75(T) at Castle Douglas;
- 75.6% on the A762; and
- 97.5% on the B727.

The assessment of likely significant effects of the Proposed Development represents a conservative approach assuming that 100% stone requirements are imported to the Proposed Development Site.

As stated previously, the high percentage increases indicated on the A762 and B727 are mainly attributable to the low baseline levels of general and HGV traffic on the route. Furthermore, these increased traffic levels are temporary in nature and are likely to be lower during the other 11 months of construction, with a significant decrease in construction traffic from month eight to completion.



This Chapter concludes that the environmental effects associated with increased traffic as a result of the Proposed Development are deemed to be **not significant** following implementation of the proposed Construction Traffic Management Plan (CTMP).



11.12 References

Department for Transport (2013) Design Manual for Roads and Bridges (DMRB). Vol 15.

Dumfries and Galloway Council (2019). Local Development Plan 2. Available at: https://www.dumfriesandgalloway.gov.uk/planning-building/planning/planningpolicy/local-development-plan/local-development-plan-2-ldp2 [Accessed on 24/03/2025].

Institute of Environmental Management and Assessment (2023) Environmental Assessment of Traffic and Movement. Available at: <u>https://www.iema.net/media/5mrmquib/iema-report-environmental-assessment-of-traffic-and-movement-rev07-july-2023.pdf</u> [Accessed on 22/05/2025].

Institute of Highways and Transportation (1998) Guidelines for Traffic Impact Assessment.

Scottish Government (2005) Planning Advice Note 75: Planning for transport. Available at: <u>https://www.gov.scot/publications/pan-75-planning-for-transport/</u> [Accessed on 24/03/2025].

Scottish Government (2023) Fourth National Planning Framework. Available at: <u>https://www.gov.scot/publications/national-planning-framework-4/</u> [Accessed on 24/03/2025].