



Environmental Appraisal Report

Woolfords Wind Farm - Tip Height Increase

Technical Appendix 11-1: Transport Assessment

Woolfords Wind Energy Ltd

wind2

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Glossary and Abbreviations

Term	Definition
The Applicant	Woolfords Wind Energy Ltd
Environmental Advisors and Planning Consultant	Atmos Consulting Limited
Environmental Impact Assessment	Environmental Impact Assessment 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	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations')
The Consented Development	Woolfords Wind Farm (Planning Reference: P/22/0031 & Date of Consent: 30 May 2025)
The Proposed Development	Woolfords Wind Farm Tip Height Increase
The Proposed Development Site	The site of the Proposed Development outlined in red. This is also the application boundary.
Study Area	Road links in the vicinity of the Proposed Development

Abbreviation	Expanded Term
ADT	Average Daily Traffic
AL	Abnormal Loads
ALA	Abnormal Loads Assessment
ATC	Automatic Traffic Count
CTMP	Construction Traffic Management Plan
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
HGV	Heavy Goods Vehicle
ISEP	Institute of Sustainability and Environmental Professionals
LGV	Light Goods Vehicle
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 assessment considers the likely significant effects associated with the construction, operation and decommissioning of the Proposed Development upon the existing transport network and associated sensitive receptors.

The Proposed Development is an alteration to the Consented Development consisting of an increase to the maximum dimensions of all three turbines to a maximum of 200m above ground level (AGL). This is described in detail in Section 3: The Proposed Development of the EA Report.

This change has required the transport and access impacts to be reassessed to determine any changes in impact from the Consented Development. This appraisal therefore identifies where the findings of that reassessment differ from the findings of the assessment for the Consented Development.

The specific objectives of the appraisal are to:

- Review and update any changes to the baseline road conditions since the application for the Consented Development;
- Identify any changes to construction traffic volumes as a result of the Proposed Development, compared to the Consented Development;
- Identify and assess any likely significant effects based on traffic volumes associated with the Proposed Development;
- Identify any changes to the cumulative scenario and assess any likely cumulative effects;
- Comparison of the potential residual transport and access effects of the Proposed Development with the effects predicted for the Consented Development;
- Presentation of conclusions regarding the consequences of the proposed change to the Consented Development, in respect of predicted transport and access effects.

The assessment 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 300 energy developments delivering EIA chapters, access assessments, Abnormal Load Assessments (ALA), infrastructure design and traffic management plans including several within the South Lanarkshire Council (SLC) administrative area.

This assessment is supported by the following figures:

- Figure 3-8: Access Junction and Visibility Splays; and
- Figure 10-1: Abnormal Loads Route

Figures and Annexes are referenced in the text where relevant.

11.2 Consultation

Consultation was undertaken with SLC as part of a formal Environmental Impact Assessment (EIA) Screening process for the Consented Development. SLC's Screening Opinion indicated that an EIA was not required to support the planning application for the Consented Development but a number of individual studies, including Transport, were identified as required to support the application.

SLC was consulted on the Proposed Development and the SLC Screening Opinion concluded that the Proposed Development would not require an EIA, but that a full assessment of Transport including abnormal load routing should be provided.

11.3 Legislation, planning policy and guidance

The Transport and Access assessment has been carried out in accordance with the policy and guidance documents listed below. It should be noted that the Institute of Environmental Management and Assessment (IEMA) publication “*Guidelines for the Environmental Assessment of Road Traffic*” which was used in the Consented Development transport appraisal has been superseded and replaced with the updated Institute of Sustainability and Environmental Professionals (ISEP) 2023 Guidelines document:

- Design Manual for Roads and Bridges (DMRB) (DfT, 2013);
- Environmental Assessment of Traffic and Movement (Institute of Sustainability and Environmental Professionals (ISEP)), (ISEP, 2023) (the ‘ISEP Guidelines’);
- Planning Advice Note 75: Planning for Transport (Scottish Government, 2005); and
- Transport Assessment Guidance (Scottish Government, 2012).

11.4 Assessment Methodology

Scope of Assessment

The scope and methodology of the assessment remains unchanged from that used in the transport assessment undertaken for the Consented Development (as described in Section 11.2.3 Scope of Assessment of the Consented Development application), and is described below.

Abnormal Loads

The most identifiable traffic and transport characteristic associated with wind farm developments is the need to transport the wind turbine components to the site. Turbine components will be delivered to an appropriate Port of Entry (PoE) and then transported as abnormal loads, given their size and weight, from the selected PoE via the public road network.

The Department for Transport (DfT) website defines an abnormal load as a vehicle that is “a weight of more than 44,000 kilograms; an axle load of more than 10,000 kg for a single non-driving axle and 11,500 kilograms for a single driving axle, a width of more than 2.9m; a length of more than 18.75m” (DfT, October 2012).

At this stage, it is expected that turbine components will be delivered to either the Port of Rosyth or to KGV Docks in Glasgow.

From Rosyth, the route to site would be via Ferry Toll Road, B981, M90, M9, M8, A71, A704 and finally an unclassified road (Auchengray Road) running south to the site access point on Auchengray Road. If KGV Docks in Glasgow was to be used, then the route to site would be via the M8 to Junction 3 at Livingston and then to site via the A899, Bankton Road/A71, the A704 and then finally onto Auchengray Road to the site access point. The proposed AL routes are provided in Figure 11-1.

General HGVs

There is also a need to bring general construction materials (concrete, aggregates, pipes, cabling, etc.) to the Proposed Development Site in standard heavy goods vehicles (HGVs). During the construction stage there is a temporary intensification of HGV traffic on the road network. This

intensification varies depending on the scale of the development, the construction stage and operational requirements.

Staff Vehicles

A small amount of traffic will be generated by construction workers commuting to/from the site during the construction stage in private car or works minibus.

Effects Scoped Out

In line with the Consented Development Transport appraisal, the following effects have been scoped out of this Transport and Access assessment:

Operational Stage

Once the Proposed Development is operational, the amount of traffic associated with a wind farm is minimal, relating to maintenance of the turbines only. It is estimated that on average there will be just single 4x4s accessing the Proposed Development Site from time to time.

Therefore, the effect of vehicle movements during the operational phase will be negligible. In respect of transport, the operational phase of the Proposed Development is therefore not assessed further in this appraisal.

Decommissioning Stage

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 traffic and transport effects of wind farm 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 will be spread out across the day. Therefore, detailed junction capacity assessments have not been undertaken.

Access Tracks & Beyond the Study Area

The effect of increased traffic associated with the Proposed Development on existing access tracks is not anticipated to have a discernible environmental effect and is, therefore, not considered in this assessment. The effects of the Proposed Development on the local public road network are, however, assessed.

It is anticipated that the volume of traffic associated with the construction of the Proposed Development will not have a discernible effect on roads and sensitive receptors outwith the study area (see below for definition of the study area) as the effects of traffic are diluted with increasing distance from the point of origin.

The Study Area

The study area for Transport and Access remains unchanged from that used in the EA for the Consented Development.

Following post submission discussions with SLC, the applicant has agreed that all HGV movements to and from the site will be restricted to the northbound access (approaching via Auchengray Road from the north) and HGVs will not be permitted to approach via Auchengray Road from the south.

This will be implemented through designated HGV routes in the CTMP and will avoid HGV traffic routing through the settlements of Woolfords and Auchengray. It is therefore anticipated that HGV construction traffic will utilise the A899, A71 and A704 routes to access the site along with the northern section of Auchengray Road that provides access from the A704 to the site access point.

A small proportion of staff car or LGV movements may approach via the A70 to the south of the site and via the southern end of Auchengray Road.

The study area, is therefore as follows:

- Auchengray Road;
- A704;
- A71;
- A899; and
- A70.

It is acknowledged that a good proportion of development traffic will route via the M8 Motorway that lies to the north of the site but given the modest size of the Proposed Development and the very high level of flows on the motorway, it is considered that the effects at the M8 will be negligible. It has, therefore, not been included within the study area.

Desk Study

Baseline traffic flows for the road links within the study area have been obtained from the Transport and Access appraisal for the Consented Development. This traffic data was originally obtained from the Department for Transport (DfT) database in 2019.

The 2019 traffic flows have been factored up to represent the current base year (2026) and anticipated year of construction (2028) using National Road Traffic Forecast (NRTF) “low growth” factors.

Road traffic collision data has been obtained from the Crashmap website.

Assessment of Potential Effect Significance

Potential Environmental Effects

Guidance for the assessment of the environmental effects of construction generated traffic is provided in the ISEP Guidelines (ISEP, 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 carried out for the Consented Development was based on the previous (1993) version of the Guidelines.

The assessment is structured around the consideration of potential environmental effects relating to traffic and transport, as identified by the ISEP 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 Proposed Development would have on the surrounding road network, the following two 'rules' should be followed.

- Rule 1 – Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2 – Include highway links of high sensitivity where traffic flows have increased 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 appraise the significance of effects at locations along the proposed routes within the study area where total traffic levels or the level of HGV traffic exceeds the screening thresholds set out in the ISEP guidelines. The methodology for assessment of significance remains unchanged from that used for the Consented Development.

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, light goods vehicles (LGVs) have less effect on traffic and the road system than HGVs. Similarly, HGVs can have less effect than abnormal load vehicles, depending on the frequency of the abnormal loads.

The criteria that has been used to make judgements on the sensitivity of the receptor(s) and the magnitude of change are presented in Table 11-1.

Table 11-1: Framework for Determining Sensitivity of Receptors

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 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 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 ISEP 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 11-2.

Table 11-2: Framework for Determining Magnitude of Change

Magnitude	Description
Major	Generally, a rule of >90 % (or >70 % at sensitive receptors)
Moderate	Generally, a rule of 60 % - 90 % (or 40 % - 70 % at sensitive receptors)
Minor	Generally, a rule of 30 – 60 % (or 10 % - 40 % at sensitive receptors)
Negligible	Generally, a rule of <30 % (or <10 % at sensitive receptors)

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 11-3. This is based on combining the magnitude of change with the receptor sensitivity.

Table 11-3: Significance Criteria Matrix

Sensitivity	Magnitude of Change			
	Major	Moderate	Minor	Negligible
High	Major	Major/Moderate	Moderate	Moderate/Minor
Medium	Major/Moderate	Moderate	Moderate/Minor	Minor
Low	Moderate	Minor	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.

Cumulative Assessment

The appraisal also assesses cumulative effects arising from the addition of the Proposed Development to other cumulative developments, which are the subject of a valid planning application. Operational, under construction and consented developments are considered as part of the baseline. Developments close to the end of their operational life will be included as part of the baseline to present a 'worst case scenario'.

Difficulties and Uncertainties

The assessment provided in this appraisal is based upon estimated average traffic flows obtained from the DfT. 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 general baseline conditions.

11.5 Baseline Conditions

Current Baseline

The following paragraphs detail the baseline conditions of the road links identified as being within the study area. As noted previously, the study area remains unchanged from the Consented Development transport appraisal, however during discussions between the Applicant and SLC it has been agreed that HGV access will be restricted to approach via Auchengray Road from the north only.

This will be the designated HGV route specified in the CTMP, with the route approaching via Auchengray Road from the south not permitted for use by construction HGV traffic.

A70

The A70 routes from Carnwath in the south to Edinburgh in the north-east providing a link to the A721 and the A720 City of Edinburgh Bypass – via the B701 and Clovenstone Roundabout. The road is predominantly a single carriageway which is generally subject to the national speed limit except for sections through villages where the speed limit reduces to 30mph. The road is generally rural in nature with grass verges either side of the road and a width of approximately 7.3m.

Construction HGV traffic will not be permitted to approach the Site via Auchengray Road from the south so therefore will not travel on the A70. A small proportion of construction staff in car or LGVs may utilise the A70 route to access the Proposed Development. The traffic joining the A70 is likely arrive via a variety of routes including the A721 and A720.

A704

The A704 runs in a north-east to south-west direction between the A71 (just west of West Calder) and the A706. The A704 is a single carriageway road with a width of 7.3m and generally subject to the National Speed Limit (60mph) apart from sections within villages where it reduces to 30mph.

It is generally rural in nature with grass verges on both sides of the road over rural sections and footways provided where the route passes through settlements. The A704 is likely to be used by general construction traffic to connect to the A71.

A71

The A71 is a distributor road located north of the Proposed Development. The route runs in an east to south-west direction from the A720 at Edinburgh to the M74 motorway in the south-west. The route passes through some small settlements including West Calder, Polbeth, Allanton and Newmains.

The A71 is single carriageway, has a minimum width of approximately 7.3m and is generally rural in nature except where it passes through settlements. The speed limit on the route is generally 60mph except for sections through settlements where the speed limit reduces to 30mph.

The A71 would be used by the majority of construction traffic as it can be used to access the strategic motorway network as well as providing a link to major origins of materials such as Edinburgh.

A899

The A899 route connects the A71 to the M8 motorway and lies on the eastern side of Livingston, between Mid Calder and Pumpherston. The A899 is a good standard dual carriageway road with a carriageway width of approximately 15.0m and two lanes in each direction.

This route is subject to a 50mph speed limit running in a north – south direction and it joins the A71 to the south by means of a 4-arm roundabout. The A899 provides access to the M8 motorway via the M8 Junction 3 Slip Road and is likely to carry a proportion of general construction traffic accessing the Proposed Development.

Auchengray Road

Auchengray Road is a single carriageway road with a lane in either direction between the A70 and Auchengray. To the north of Auchengray, the route reduces in standard to a wide single-track road with passing places located to the east of the Proposed Development.

The road is rural in nature providing a north-south link between the A704 in the north to the A70 in the south. It provides access to a small number of isolated properties and farms and passes through the small settlements of Woolfords and Auchengray (which contains a primary school and a church).

Auchengray Road is subject to the National Speed Limit (60mph) except for sections through Woolfords and Auchengray where the speed limit reduces to 30mph. All construction traffic and abnormal loads will utilise a section of Auchengray Road to reach the Site access point which will be taken directly after Pates Hill wind farm entrance. All construction HGV traffic will approach from the north and therefore will not pass through Auchengray or Woolfords.

Baseline Traffic Flows

Table 11-4 indicates the two-way Average Daily Traffic (ADT) in the study area and the percentage of traffic which is classified as HGVs. The baseline data from the Consented Development transport appraisal has been factored up to the 2026 baseline and 2028 year of construction using NRTF low growth factor (1.010). The table below also indicates the capacity of each road link in a 12-hour period as per the guidance contained within the DMRB.

Table 11-4: Study Area Baseline Traffic Flows

Counter Location	DMRB Capacity	2026 ADT	2026 HGV	2028 ADT	2028 HGV	Percentage HGV
1. A71	57,600	7,055	611	7,124	617	8.7%
2. A899	144,000	14,850	525	14,996	530	3.5%
3. A704	43,200	3,788	656	3,825	663	17.3%
4. A70	43,200	2,062	124	2,082	125	6.0%
5. Auchengray Road	3,360	611	19	617	19	3.1%

Road Safety

The Crashmap website has been utilised to determine the number of accidents that have occurred in a five year period using the most recent available data (2020 – 2024) along the road links within the identified study area. The results of this investigation are indicated by Table 11-5.

Table 11-5: Road Traffic Collision Statistics

Counter Location	Slight	Serious	Fatal
1. A71	19	8	0

2. A899	13	2	0
3. A704	5	6	0
4. A70	4	2	0
5. Auchengray Road	1	1	0

Table 11-5 indicates that there are no major concerns over the Auchengray Road link from where site access will be taken, and the volumes of accidents on the other routes within the study area, are typical of roads of this nature carrying such traffic volumes.

There are no specific accident 'hotspots' within the study area that would need special consideration in relation to the Proposed Development.

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.

11.6 Embedded Mitigations

There is no change to proposed embedded mitigation from the Consented Development transport appraisal.

The location of the proposed access has been selected to obtain maximum visibility in both directions, by being located on the top of a small crest. This is shown in Figure 3-8.

On-site borrow pit areas have been identified which 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.

11.7 Assessment of Effects

Construction

The construction traffic associated with the Proposed Development will comprise construction workers, HGVs / LGVs carrying construction materials & plant and abnormal loads carrying the main wind turbine components.

As a result of the Proposed Development, the changes from the Consented Development which relate to transport and access are identified as:

- A 20% increase in imported stone volume;
- A 35% increase in materials for turbine foundation such as steel reinforcement and concrete;
- Minor increase in turbine component deliveries;
- Construction now anticipated to commence in 2028 (subject to consenting timelines).

Construction of the Proposed Development is estimated to take nine months. General working hours are expected to be between 07:00 and 19:00 on weekdays and 07:00 and 13:00 on Saturdays which means that staff will predominantly arrive and depart outside the peak hours associated with the surrounding road network.

Turbine delivery, erection and commissioning activities may also take place out-with these hours depending on weather conditions, in agreement with SLC.

The potential number of traffic movements that will result from the Proposed Development are set out in Table 11-6. This assumes that 100% of stone will be imported to site for a robust assessment.

In practice, it is likely that a good proportion of stone for access tracks and hardstanding areas can be sourced from on site borrow pits which would have the effect of reducing HGV numbers to and from the site. It has also been assumed that concrete will be imported rather than any form of on-site batching.

Table 11-6 indicates the estimated monthly movements associated with the Proposed Development. The movements are two-way and include HGV and abnormal loads. The movements are noted in line with an approximate nine month construction programme and general assumptions around the composition and dimensions of associated infrastructure.

Table 11-6: Construction HGV Movements per Month

Task	Month									Total
	1	2	3	4	5	6	7	8	9	
Site access tracks & hardstanding areas (stone)	330	306	306							942
Cabins, plant & consumable deliveries (fuel etc)	14	10	8	8	8	8	8	8	20	92
Turbine foundations (steel reinforcement and concrete)				77	77	77				231
Cables & sand					12	12	12			36
Turbine delivery & installation							12	12		24
Total (one way)	344	316	314	85	97	97	32	20	20	1,325
Total (two way)	688	632	628	170	194	194	64	40	40	2,650

The vehicle numbers in Table 11-6 represent the following increase in vehicle loads per task, compared to the Consented Development, as a result of increased turbine base dimensions required to support the taller turbines:

- Import of stone – increase of 157 loads;
- Turbine foundations (import of steel reinforcement and concrete) – increase of 60 loads; and
- Additional turbine components – increase of 2 loads

Table 11-7 indicates the increase in anticipated monthly, weekly and daily construction traffic, as a result of the Proposed Development, when compared to the Consented Development.

Table 11-7: Monthly HGV Movement Comparison with Consented Development

Scenario	Month									
	1	2	3	4	5	6	7	8	9	Total
Total HGV Trips										
Consented Development Total (two way)	578	530	526	130	154	154	62	38	40	2212
Proposed Development Total (two way)	688	632	628	170	194	194	64	40	40	2650
Increase from Consented Development	110	102	102	40	40	40	2	2	0	438
Average Daily HGV Trips										
Consented Development	28	26	26	6	8	8	4	2	2	-

Daily Average* (two way)										
Proposed Development Daily Average* (two way)	34	32	32	8	10	10	4	2	2	-
Increase from Consented Development	6	6	6	2	2	2	0	0	0	-

*Assuming a five day working week, 100% of stone imported, and trips rounded to the nearest even number to represent two way trips

Table 11-7 shows that in month 1 (the peak of construction traffic generation) the increase in two way traffic anticipated for the construction of the Proposed Development compared to the Consented Development is 110 additional HGV trips. +This equates to an average daily increase of approximately 6 HGV movements (3 inbound and 3 outbound). Months 2 and 3 also indicate an additional 6 HGV movements per day, months 4 to 6 indicate 2 additional HGV movements per day and no additional HGV movements are anticipated in the final 2 months of the construction period, when compared to the Consented Development.

With regard to staff movements, it is estimated that 300 trips per month by car/LGVs are made to the Proposed Development site. This is no change from the Consented Development and results in an average daily movement of 15 cars/LGV (15 trips in and 15 trips out) in addition to the daily average HGV movements indicated in Table 11-7.

As a worst-case scenario, 100% construction traffic (HGV and staff movements) has been applied to road links 1. A71, 2. A899, 3. A704 and 5. Auchengray Road. On link 4. A70, 100% of staff movements and no HGV movements has been applied to represent the agreed routing that no HGV traffic would approach via Auchengray Road from the South. This distribution provides a robust assumption for testing the traffic impact of the development on links within the study area.

Table 11-8 details the daily percentage increases on the road links in the study area for the peak month of the construction period (month 1) in the assumed year of construction (2028).

Table 11-8: Construction Traffic Effect on Routes within Study Area

Scenario	1. A71	2. A899	3. A704	4. A70	5. Auchengray Rd
2028 ADT	7,124	14,996	3,825	2,082	617
2028 HGV	617	530	663	125	19
Month 1 worst case daily HGV	34	34	34	0	34
Month 1 daily staff movements	30	30	30	30	30
Percentage increase in total traffic	0.9%	0.4%	1.7%	1.4%	10.4%
Percentage increase in HGV traffic	5.6%	6.5%	5.2%	0.0%	181.4%

Table 11-8 11-8 indicates that the temporary increase in total traffic levels associated with the Proposed Development is less than 4% on the A71, A899, A704 and A70 which is considered to be a negligible increase in accordance with the ISEP Guidelines.

The percentage increases in HGVs is also negligible for the A71, A899, A704 and A70 routes as the percentage impact is below 10%. This is consistent with the assessment for the Consented Development.

The percentage impact on HGV movements on the Auchengray Road link is identified as 181.4%, compared to 155% for the Consented Development. The main reason for this is the existing low level of traffic identified on this road link (617) which means that the percentage impact is greatly inflated and is not considered to be a true barometer of the impact that will be experienced from the 34 HGV movements per day during the peak months.

As such, it is considered that the overall traffic increase level (10.4%) is a more appropriate test of the likely impact that will be experienced on the link. For comparison, the overall predicted traffic increase on this link was 9.7% for the Consented Development and the change from the Consented Development is an additional 6 HGV movements per day.

The 10.4% increase in total traffic on Auchengray Road technically exceeds the 10% threshold of 'Rule 1' for sensitive receptors, considering Auchengray Road as a sensitive receptor due to its nature as a minor single track road with the settlements of Auchengray and Woolfords along its length.

However, as previously discussed, construction HGV traffic would not be permitted to travel to the site via Auchengray Road from the south therefore no construction HGV traffic would pass through the settlements of Auchengray or Woolfords, and the 10.4% increase is based on a worst case scenario of 100% of stone being imported to site which is likely to be a large overestimate.

The total construction HGV traffic of 34 vehicles is the sum of 17 inbound vehicles and 17 outbound vehicles (compared to 14 inbound and 14 outbound for the Consented Development). Split over the working day of 12 hours (0700-1900), the hourly flow would be less than 3 vehicles which on average equates to 1.5 HGVs per hour in each direction through the day.

Staff vehicle movements would generally occur early in the morning, returning in the evening, both outwith standard network peak times.

It is considered that such a rise in traffic flows would generally be imperceptible to users of the route and receptors adjacent to the route. The effect can therefore be considered as negligible. As such, it is considered that there is no requirement for a detailed assessment of environmental effects associated with the negligible temporary increase in traffic on Auchengray Road.

Cumulative Assessment

Cumulative effects have been assessed for other developments which may utilise sections of the road network required for the Proposed Development. Operational wind farms have been discounted as they have negligible operational traffic and therefore no cumulative traffic effect.

The wind farms which have been identified are;

- Heathland Windfarm (resubmission, 14 turbines);
- Tormy Wheel Windfarm Extension (2 turbines);
- Pearie Law Extension (4 turbines); and
- Camilty Wind Farm (6 turbines).

Longhill Burn Wind Farm was included in the cumulative assessment for the Consented Development but was constructed in 2022 so no longer has the potential for cumulative construction effects. Camilty Wind Farm gained consent in 2021 and was not included in the cumulative assessment for the Consented Development but has been considered as a potential cumulative development with the Proposed Development.

The Tormywheel Extension and Heathland wind farm sites are located to the west of the site with construction traffic using the A704, A71 and A899 routes as well as the A706 route.

The Pearie Law Extension lies to the east of the Proposed Development and construction traffic will also utilise the A899, A71 as well as Auchengray Road to access the Pearie Law Extension site.

Camilty Wind Farm is located approximately 4.5km east of the Proposed Development and with construction traffic accessing the site from the A70 and likely travelling via the A899, A71 and B7008.

Whilst the construction traffic associated with these wind farms may also utilise the A704, A71 and A899, the only development likely to also use Auchengray Road is the Pearie Law Extension which is another smaller scale development at four turbines.

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 Construction Traffic Management Plan (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.

The Proposed Development is anticipated to generate very low levels of temporary additional traffic onto the A704, A71 and A899 so no significant cumulative issues are anticipated on these routes.

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.

Furthermore, implementation of a CTMP for each development would ensure that there are open lines of communication with SLC, Police Scotland, Transport Scotland, other stakeholders, and wind farm developers to monitor the progress of the construction stages.

11.8 Mitigation

Mitigation during Construction

There is no change in the requirement for mitigation from that proposed for the Consented Development. No mitigation is technically required as there are no significant effects anticipated as a result of the construction of the Proposed Development, however, a CTMP is proposed as a “good practice” measure to support the Proposed Development.

The CTMP would identify measures to reduce the number of construction vehicles as well as considering ways to reduce or avoid the impact of vehicles through construction programming / routing and identification of an individual with responsibilities for managing traffic and transport effects.

The CTMP would also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. The CTMP would be developed during the detailed design phase of the Proposed Development. Potential measures could include (but are not limited to):

- Immediately upon commencement, all deliveries, operatives and visitors to the 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 point for the project, unloading areas, pedestrian / vehicular segregation, welfare, storage, security and material handling that would be enforced following full site establishment;
- Approved haul routes would be identified to the Site such as HGV traffic to approach via Auchengray Road from the north only, and protocols put in place to ensure that HGVs adhere to these routes;

- All contractors would be provided with a site induction pack containing information on delivery routes and any restrictions on routes;
- Temporary construction site signage would be erected along the identified construction traffic routes to warn people of construction activities and associated construction vehicles;
- A construction traffic speed limit (for example, 20mph) would be imposed through sensitive areas (along Auchengray Road for example);
- The construction material 'lay down' areas would allow for a staggered delivery schedule throughout the day, avoiding peak and unsociable hours (i.e. before 6am and after 10pm);
- 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 telephone contact with the subcontractors;
- Roads would be maintained in a clean and safe condition; and
- A wheel washing facility would be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network.

11.9 Residual Effects and Conclusion

Construction

No significant effects have been identified on transport receptors within the study area and therefore residual effects are considered negligible and not significant.

Cumulative Assessment

No significant cumulative effects have been identified therefore residual cumulative effects are considered negligible and not significant.

11.10 Summary and Statement of Significance

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

As a consequence of the increased top height of turbines, an increased volume of stone, concrete and steel reinforcement is required for the turbine bases. This assessment has quantified the minor increases to construction traffic volumes as a result of the Proposed Development, compared to the Consented Development and assessed the resultant impact on potential effects.

Following post submission discussions with SLC, the Applicant has agreed that construction HGV traffic will approach the site via Auchengray Road from the north only, utilising the A899, A71 and A704 routes to access the northern section of Auchengray Road.

A small proportion of construction staff in car or LGVs may route via the A70 to the south of the site and via the southern end of Auchengray Road but HGV traffic will not be permitted to use this route.

Abnormal loads transporting turbine components are expected to arrive at either the Port of Rosyth or KGV Docks, Glasgow.

Baseline traffic flows from the traffic assessment of the Consented Development have been factored using NRTF low growth rates to provide 2026 baseline and 2028 (anticipated year of construction) flows.

An assessment of road traffic collisions has been provided using the most recent available data on the Crashmap website.

The construction programme associated with the Proposed Development is anticipated to cover a 9 month period, during which 1,106 HGVs would access the Site equating to 34 daily total HGV trips (approximately 17 inbound plus 17 outbound) during the busiest construction month (Month 1).

This represents an increase of approximately 6 HGV movements per day during the peak month compared to the Consented Development. From months 4 to 9 there are expected to be, on average, a maximum of 5 inbound and 5 outbound HGV movement per day.

The increase in material quantities and resultant vehicle movements for the Proposed Development, compared to the Consented Development is as follows:

- Imported stone: 157 additional loads;
- Steel reinforcement and concrete for turbine bases: 60 additional loads;
- Two additional turbine component deliveries.

Staff vehicle movements are expected to remain the same as anticipated for the Consented Development at 15 inbound and 15 outbound vehicle movements per day.

A robust assessment was undertaken based on a conservative approach for the total construction traffic movements and the worst-case scenario for each road link.

The assessment indicated that on the A71, A968, A704 and A70, the increase in total traffic as a result of construction traffic in the peak month was negligible with an increase of less than 4%. On Auchengray Road the increase in total traffic during the peak month was 10.4% which is due to the very low baseline levels of traffic using this road (617 vehicles per day in 2028).

The percentage increases in HGVs are negligible for the A71, A899, A704 and A70 routes as the percentage impact is below 10%. This is consistent with the assessment for the Consented Development.

The percentage impact on HGV movements on the Auchengray Road link is identified as 181.4%, compared to 155% for the Consented Development. The main reason for this is the existing low level of HGV traffic identified on this road link (19 per day in 2028) which means that the percentage impact is greatly inflated and is not considered to be a true barometer of the impact that will be experienced.

The total construction HGV traffic of 34 vehicles is the sum of 17 inbound vehicles and 17 outbound vehicles (compared to 14 inbound and 14 outbound for the Consented Development). Split over the working day of 12 hours (0700-1900), the hourly flow would be less than 3 vehicles which on average equates to 1.5 vehicles per hour in each direction through the day.

A CTMP is proposed which would include measures to reduce and mitigate the effects of construction traffic including designated a route for HGV traffic to approach from the north to avoid HGVs travelling through Auchengray or Woolfords.

No significant cumulative or residual transport effects are anticipated, as summarised in Table 11-9.

This appraisal concludes that the additional traffic generated by the Proposed Development is a negligible increase from the Consented Development of approximately 6 HGV movements per day

during months 1 to 3 and 2 additional HGV movements per day during months 4 to 7. There is no change to the overall impact or significance of effects and the conclusion of no significant effects as reported for the Consented Development remains unchanged.

Table 11-9: Summary of Potential Significant Effects of the Proposed Development

Likely Significant Effect	Additional Mitigation Proposed	Means of Implementation	Outcome/Residual Effect
Construction			
None Identified	Not required but CTMP proposed as good practice.	CTMP via planning condition	Not Significant
Cumulative Construction			
Non Identified	Not required but CTMP proposed as good practice.	CTMP via planning condition	Not Significant

11.11 Reference

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