

Chapter 12: Site Access, Traffic and Transport

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12 Site Access, Traffic and Transport

12.1 Executive Summary

- 12.1.1 This chapter considers the likely significant effects on transport and access associated with the construction, operation, and decommissioning of the Proposed Development.
- 12.1.2 The Proposed Development would lead to increased traffic volumes on a number of roads in the vicinity of the site during the construction phase. These would be of a temporary timescale and transitory in nature.
- 12.1.3 The peak of construction would occur in Month 4 of the construction programme with an average of 72 journeys predicted per day (30 cars / light goods vehicles (lights) and 42 heavy goods vehicles (HGV)).
- 12.1.4 No link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development.
- 12.1.5 With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect of traffic and transport issues. The residual effects are all assessed to be **minor / negligible** and would be temporary and reversible, occurring during the construction phase only.
- 12.1.6 Traffic levels during the operational phase of Proposed Development would be up to two vehicles per week for maintenance purposes. Traffic levels during the decommissioning of the Proposed Development are expected to be lower than during the construction phase as some elements are likely be left in situ and others broken up on-site.
- 12.1.7 The movement of Abnormal Indivisible Loads (AIL) traffic would require small scale and temporary remedial works at a number of locations along the identified delivery route.

12.2 Introduction

- 12.2.1 This chapter examines the transport and access issues associated with the Proposed Development and considers the likely significant effects on transport and access associated with the construction, operation, and decommissioning of the Proposed Development. The specific objectives of the chapter are to:
- describe the existing access network and transport baseline;
 - describe the assessment methodology and significance criteria used in completing the impact assessment;
 - describe the potential effects, including direct, indirect, and cumulative effects;
 - describe the mitigation measures proposed to address likely significant effects; and
 - assess the residual effects remaining following the implementation of mitigation.
- 12.2.2 The assessment has been carried out by Pell Frischmann Consultants Limited. Elaine Moran BEng (Hons), MSC, MCIHT is the author of the chapter and is a Senior Transport Planner at Pell Frischmann. She has over eight years of experience in the traffic and transport planning industry. Gordon Buchan BEng (Hons), MSC, CMILT, FCIHT is the approver of the chapter and is the Sector Director – Energy. He has over 27 years' experience of undertaking the transport assessments associated with new developments and has worked on renewable energy and energy distribution projects across the UK, Ireland and Northern Europe.
- 12.2.3 This chapter is supported by the following figures and appendices.
- Technical Appendix 12.1: Transport Assessment.
 - Figure 12.1 Study Area.
 - Figure 12.2 Traffic Count Locations.
 - Figure 12.3 Personal Injury Accident Locations.
 - Figure 12.4 Abnormal Indivisible Loads Delivery Route.
 - Figure 12.5 Site Entrance.
- 12.2.4 Figures and technical appendices are referenced in the text where relevant.

12.3 Legislation, Policy and Guidelines

Legislation

12.3.1 There is no legislation, which is specific to transport assessments, which is required to be considered as part of this assessment.

Planning Policy

12.3.2 Relevant planning policy is set out in Chapter 4. This traffic and transport assessment has been undertaken in accordance with the policies outlined in the following documents:

- National Planning Framework 4 (NPF4) (2023); and
- Scottish Borders Council Local Development Plan (LDP) (2016).

12.3.3 Planning policy relevant to this chapter is detailed further within Technical Appendix 12.1.

Guidance

12.3.4 Cognisance has been taken of the following best practice guidelines and guidance:

- Institute of Environmental Assessment, Environmental Assessment of Traffic and Movement (2023);
- Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Impact Assessment' (2005);
- Institute of Environmental Assessment, Guidelines for the Environmental Assessment of Road Traffic (1993);
- Design Manual for Roads and Bridges (DMRB), LA 104 Environmental Assessment and Monitoring (Revision 1) (2020);
- Planning Advice Note (PAN) 75 (1995);
- Table 2.2 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges (DMRB) (2008);
- Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESAs Manual" (2013);
- Transport Assessment Guidance (2012);
- Onshore Wind Turbines, Online Renewables Planning Advice (May 2014); and
- Scottish Borders Council Supplementary Guidance Renewable Energy (2018).

12.4 Consultation

12.4.1 In undertaking the assessment, consideration has been given to the Environmental Impact Assessment (EIA) Scoping responses and other consultation undertaken as detailed in Table 12.1.

Table 12.1 – Consultation

Consultee and Date	Consultation Response	Applicant Response
Scottish Borders Council 24 April 2023	The following comments have been received from the Council Roads Planning Service: <ul style="list-style-type: none"> • "Impact on the local road network. • Construction traffic type, frequency, numbers etc. • Access routes for general construction traffic. • Abnormal loads route and mitigation measures. • Traffic Management Plan The items listed above should be addressed to the Councils satisfaction as part of any detailed submission through the Transport and Access element of an EIA." <p>The following advice has been received from the Council Access Officer:</p>	Comment noted. These points have been addressed within this chapter and Technical Appendix 12.1 Transport Assessment.
	"General Access Rights The Land Reform (Scotland) Act 2003 (LRA) introduced a right of responsible public access to most areas of land and inland water in Scotland. This gives everyone a right to take nonmotorised access to walk, cycle and horse-ride over most land, by following the Scottish Outdoor Access Code. Rights of Way are specifically protected by law under the Countryside (Scotland) Act 1967 sec. 46	Comment noted. There are no Core Paths or public rights of way (RoW) within the site boundary.

Consultee and Date	Consultation Response	Applicant Response
	<p>Anyone exercising their access rights must do so responsibly by following the Scottish Outdoor Access Code and land owners/managers have a reciprocal responsibility in respecting the interests of those exercising their rights. Scottish Borders Council (SBC) has a statutory duty to uphold these rights.</p> <p>Core Paths, Public Rights of Way and Promoted Paths According to the records held by Scottish Borders Council, no rights of way, core paths or promoted paths pass through this site. However, Scotways or the Community Council may have information on rights of way and other paths in this area. Mapping of the wider path network across the Scottish Borders can be found at: www.scotborders.gov.uk/mapadvanced</p> <p>Path Planning Study As the site lies very close to Tweedsmuir village it is likely that there will be informal routes through this area which local people are using to access the land for recreational purposes. A Path Planning Study should be commissioned within the title deed extent of the landowner affected. A detailed plan of public access (pedestrian, cycle, horse, all ability routes), across the site (existing, during construction and upon completion) should be provided by the developer for the consideration of the Planning Authority.</p> <p>Managing Public Access With regards to managing access during and after construction, Developers should follow the guidance set out in the document 'Good Practice during Wind Farm Construction – Part 8 Recreation and Access'. See: www.nature.scot/guidance-good-practice-during-wind-farm-construction “</p>	<p></p> <p>Comment noted.</p> <p>ScotWays was contacted after the Scoping process and confirmed that there are no RoW within 2.5 km of the site.</p> <p>A Proposed Paths Plan is included on Figure 14.1.1. A Preliminary Access Management Plan (PAMP) has been prepared and is presented as Technical Appendix 14.1. The PAMP will be developed into an AMP which will be secured through an appropriately worded planning condition.</p> <p>Comment noted. A Preliminary Access Management Plan (PAMP) has been prepared and is presented as Technical Appendix 14.1. The PAMP will be developed into an AMP which will be secured through an appropriately worded planning condition.</p>
<p>Transport Scotland 10 January 2023</p>	<p>Proposed Development We understand that the Proposed Development comprises up to 10 turbines with a blade tip height of up to 250 m, located north-west of the A701 between Tweedsmuir and Glenbreck, approximately 19 km north of Moffat in the Scottish Borders. The nearest trunk road to the site is the A702(T) which lies approximately 11 km to the north-west while the A74(M) lies approximately 15 km to the south.</p> <p>Assessment of Environmental Impacts Chapter 10 of the Scoping Report presents the proposed methodology for the assessment of Traffic and Transport. This indicates that the Transport & Access EIA Report Chapter will be supported by a Transport Assessment report, Abnormal Load Route Survey and technical figures. It also states that the assessment will be carried out in accordance with the Guidelines for the Environmental Assessment of Road Traffic (IEMA 1993).</p> <p>As per these guidelines, the Scoping Report indicates that the scope of assessment will focus on.</p> <ul style="list-style-type: none"> • Potential impacts (of changes in traffic flows) on local roads and the users of those roads. • Potential impacts (of changes in traffic flows) on land uses and environmental resources. <p>Fronting these roads, including the relevant occupiers and users. We note that the rules taken from the guidance will be used as a screening process to define the scale and extent of the assessment, as follows:</p> <ul style="list-style-type: none"> • Traffic flows will increase by more than 30 %, or • The number of HGVs will increase by more than 30 %, or • Traffic flows will increase by 10 % or more in sensitive areas. <p>We note that the study area for the assessment will comprise the A74(M) to the north and south of</p>	<p>At Scoping, the Proposed Development comprised of 10 turbines up to 250 m to blade tip height. The Proposed Development submitted in this application comprises seven wind turbines with a maximum tip height of up to 200 m.</p> <p>The Transport Assessment and Route Survey Report (RSR) are presented in Technical Appendix 12.1.</p> <p>The figures associated with this chapter are presented as Figures 12.1 - 12.4.</p> <p>Comment noted.</p>

Consultee and Date	Consultation Response	Applicant Response
	Junction 15 of the A74(M) and the A701 between the A74(M) and Broughton, and that access to the Proposed Development would be taken from the A701 via a new or upgraded forest access junction. As this forms part of the local road network, Transport Scotland has no comment to make on the site access junction itself.	
	Baseline traffic count data will be obtained from a new Automatic Traffic Count (ATC) survey located on the A701 near the proposed site access junction. Further traffic data for the A701 and A74(M) will be obtained from UK Government Department for Transport (DfT) traffic count data or the Traffic Scotland database. National Road Traffic Forecast (NRTF). Low Traffic Growth assumptions will be used to provide a common future year baseline to coincide with the expected construction traffic peak. Transport Scotland is satisfied with this approach.	Baseline traffic was obtained from the Transport Scotland database for the trunk road network and from the DfT database for the local road network.
	We note that the impacts on receptors within the study area will be reviewed during the construction phase, with a peak construction period assessment undertaken. In addition, any impacts associated with the operational or decommissioning phases of the development are to be scoped out of the EIA.	Comment noted.
	Transport Scotland considers the methodology identified within the SR to be appropriate.	Comment noted.
	Abnormal Loads Assessment The SR states that each turbine is likely to require between 11 and 14 abnormal loads to deliver the components to site, and all abnormal load traffic would travel to the site from King George V Docks in Glasgow via the M8, M74 and A701. We note that detailed swept path analyses will be undertaken for the main constraint points on the route from the port of entry through to the site access junction to demonstrate that the turbine components can be delivered to site and to identify any temporary road works which may be necessary. Transport Scotland is satisfied with this approach and would add that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the appropriate Area Managers prior to the movement of any abnormal load. The abnormal loads assessment should be submitted with the application as a technical appendix.	The RSR is presented as part of Technical Appendix 12.1. Any required changes to the trunk road network will be discussed and agreed with Transport Scotland.
Dumfries & Galloway Council 12 December 2022	As the Proposed Development is located outwith the administrative area of Dumfries and Galloway Council, no formal response will be issued in this instance. Notwithstanding this, as the submitted scoping report indicates that construction traffic and AIL deliveries into the development site will be required from the Councils adopted road network, consultation on the proposed Traffic Management Plan will be required.	Comment noted. It is proposed that a full Construction Traffic Management Plan (CTMP) will be prepared prior to the construction of the Proposed Development and will be secured through a suitably worded planning condition should the Proposed Development be granted planning permission. An Outline CTMP is provided in the Mitigation section of this chapter.

12.5 Assessment Methodology and Significance Criteria

Scope of Assessment

Effects Assessed in Full

12.5.1 The following effects were identified at the scoping stage for consideration in this assessment:

- direct effects during construction on traffic flows in the surrounding study area;
- direct effects upon local road users; and
- direct effects on local residents as a result of increased traffic.

- 12.5.2 Where the predicted magnitude of change to baseline conditions of roads within the study area meet the criteria set out in the IEMA guidance, a review of the effects on severance, driver delay, pedestrian delay, non-motorised user amenity, fear and intimidation, road safety and large loads has been undertaken.

Effects Scoped Out

- 12.5.3 It is predicted that during the operational phase of the Proposed Development there would be up to two vehicle movements per week for maintenance purposes. Also, there may be occasional abnormal load movements to deliver replacement components to the Proposed Development site in the unlikely event of a major failure.
- 12.5.4 Given the low traffic generation, significant effects are unlikely and, therefore, operational impacts have been scoped out of the assessment.

Study Area

- 12.5.5 The study area includes local roads that are likely to experience increased traffic flows resulting from the Proposed Development. The geographic scope was determined through a review of Ordnance Survey (OS) plans and an assessment of the potential origin locations of construction staff and supply locations for construction materials.
- 12.5.6 Strategic access to the site would be from the A74(M) (north and south of Junction 15), via the A701. Construction materials could be brought to the site along the A701 from the A74(M) and Moffat or from the direction of Broughton, depending upon the source.
- 12.5.7 Abnormal loads associated with the wind turbines would be delivered to the site from the Port of Entry (POE) at King George V Docks via the M8, M74, A74(M) and A701.
- 12.5.8 The study area for this assessment is therefore as follows:
- A74(M) to the north and south of Junction 15; and
 - A701 between the A74(M) and Broughton.
- 12.5.9 The study area is illustrated on Figure 12.1.

Desk Study

- 12.5.10 The desk study reviews the following:
- relevant transport planning policy;
 - collection of traffic flow and accident data;
 - review of accident data;
 - sensitive locations, such as within built up areas and at the site access junction;
 - any other traffic sensitive receptors in the area (core paths, routes, communities, etc.);
 - OS plans;
 - potential origin locations of construction staff and supply locations for construction materials to inform extent of local area roads network to be included in the assessment; and
 - constraints to the movement of Abnormal Indivisible Loads (AIL) through a route survey including swept path assessments.

Route Survey

- 12.5.11 A route survey was undertaken to review the access route for AIL and to review potential access constraints and opportunities. The RSR is provided in Technical Appendix 12.1 as Annex A.

Assessment of Potential Effect Significance

- 12.5.12 The Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Impact Assessment' (2005) notes that the separate IEMA Guidelines should be used for characterising the environmental traffic and transport effects (off-site effects) and the assessment of significance of major new developments. More recent guidance published by the IEMA, namely 'Environmental Assessment of Traffic and Movement' (2023) provides an update to the previously used guidance, 'Guidelines for the Environmental Assessment of Road Traffic' (1993) document, which should be used to characterise the environmental traffic and transport effects (off-site effects) and the assessment of significance of major new developments. The guidelines intend to complement professional judgment and the experience of trained assessors.
- 12.5.13 In terms of traffic and transport impacts, the receptors are the users of the roads within the study area and the locations through which those roads pass.

12.5.14 The IEMA Guidelines include guidance on how the sensitivity of receptors should be assessed. Using that as a base, professional judgment was used to develop a classification of sensitivity for users based on the characteristics of roads and locations. This is summarised in Table 12.2.

Table 12.2 – Classification of Receptor Sensitivity

Receptor	Sensitivity			
	High	Medium	Low	Negligible
Users of Roads	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs. Includes roads with traffic control signals, waiting and loading restrictions, traffic calming measures.	Where the road is a local A or B class road, capable of regular use by HGV traffic. Includes roads where there is some traffic calming or traffic management measures.	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition. Includes roads with little or no traffic calming or traffic management measures.	Where roads have no adjacent settlements. Includes new strategic trunk roads that would be little affected by additional traffic and suitable for Abnormal Loads and new strategic trunk road junctions capable of accommodating Abnormal Loads.
Users / Residents of Locations	Where a location is a large rural settlement containing a high number of community and public services and facilities.	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.	Where a location is a small rural settlement, few community or public facilities or services.	Where a location includes individual dwellings or scattered settlements with no facilities.

12.5.15 Where a road passes through a location, users are considered subject to the highest level of sensitivity defined by either the road or location characteristics.

Magnitude of Impact

12.5.16 The following rules, also taken from the 1993 and 2023 IEMA Guidelines, were used to determine which links within the study area should be considered for detailed assessment:

- Rule 1 – Include highway links where traffic flows will increase by more than 30 % (or the number of heavy goods vehicles (HGV) will increase by more than 30 %); and
- Rule 2 – Include highway links of high sensitivity where traffic flows have increased by 10 % or more.

12.5.17 Examples of sensitive areas are presented in the IEMA Guidelines as hospitals, churches, schools and historical buildings. These locations are to be assessed in relation to “Rule 2”.

12.5.18 The IEMA Guidelines identify the key impacts that are most important when assessing the magnitude of traffic impacts from an individual development. The impacts and levels of magnitude are discussed below:

- Severance – the IEMA Guidance advises that, “*The Department for Transport has historically set out a range of indicators for determining the significance of severance. Changes in traffic flow of 30 %, 60 % and 90 % are regarded as producing ‘slight’, ‘moderate’ and ‘substantial’ changes in severance respectively. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law. However, caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic.*” (Para 3.16). The Guidelines acknowledge that changes in traffic flows should be used cautiously, stating that “*the assessment of severance should pay full regard to specific local conditions, e.g. sensitivity of adjacent land uses, prevalence of vulnerable people, whether or not crossing facilities are provided, traffic signal settings, etc.*” (Para 3.17).
- Driver delay – the IEMA Guidelines note that these delays are only likely to be “*significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system*” (Para 3.20).
- Pedestrian delay (incorporating delay to all non-motorised users) – the IEMA Guidance advises that “*pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the development site.*” (Para 3.24). Furthermore, the guidance advises that “*...it is not considered wise to set down definitive thresholds. Instead it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect.*” (Para 3.26).

- Non-motorised user amenity - the IEMA Guidance advises that, “*The 1993 Guidelines suggest that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law.*” (Para 3.30).
- Fear and intimidation – there are no commonly agreed thresholds for estimating levels of fear and intimidation, from known traffic and physical conditions. However, as the impact is considered to be sensitive to traffic flow, changes in traffic flow of 30 %, 60 % and 90 % are regarded as producing minor, moderate and substantial changes respectively in the guidelines (para 2.19). As such, this has been used to assess the potential impacts associated with construction activities around fear and intimidation on people in close proximity to the Proposed Development.
- Road safety – professional judgement would be used to assess the implications of local circumstances or factors which may elevate or lessen risks of accidents. In line with the IEMA Guidance, those areas of collision clusters would be subject to detailed review.
- Road safety audits – It would be proposed to undertake any necessary Road Safety Audits (RSA) post consent and it is considered that this can be secured via a planning condition.
- Large loads – The movement of the AILs associated with the construction of the Proposed Development have been considered in full, within a separate route survey assessment, which identifies physical mitigation measures required to accommodate the predicted loads. Additional mitigation in terms of addressing potential impacts on sensitive receptors are included as standard within Section 12.10.

12.5.19 While not specifically identified as more vulnerable road users, cyclists are considered in similar terms to pedestrians.

12.5.20 Table 3.4N of LA 104 Revision 1 of the Design Manual for Roads and Bridges (DMRB) (2013) sets out four levels against which the magnitude of these impacts should be assessed – major, moderate, minor and negligible. The impacts and levels of magnitude are discussed in Table 12.3.

Table 12.3 – Magnitude of Impacts

Receptor	Sensitivity
Major	These effects are considered to be material in the decision-making process.
Moderate	These effects may be important but are not likely to be material factors in decision making. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a receptor.
Minor	These effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in improving the subsequent design of the project.
Negligible	No effects or those that are imperceptible.

Determination of Effect Significance

12.5.21 The predicted significance of the effect was determined through a standard method of assessment based on professional judgement, considering both sensitivity and magnitude of change as detailed in Table 12.4.

Table 12.4 – Significance of Effects

Receptor Sensitivity	Magnitude of Impacts			
	Major	Moderate	Minor	Negligible
High	major	major / moderate	moderate / minor	minor
Medium	major / moderate	moderate	minor	minor / negligible
Low	moderate / minor	minor	minor	minor / negligible
Negligible	minor	minor	minor / negligible	negligible

12.5.22 Significance is categorised as major, moderate, minor or negligible. Effects judged to be of major or moderate significance are considered to be significant in with the context of the EIA Regulations and require mitigation.

12.5.23 Where an effect could be one of major / moderate or moderate / minor significance, professional judgment is used to determine which option should be applicable. Effects judged to be of minor or negligible significance are considered not significant in the context of EIA Regulations.

Nature of Effect

12.5.24 In addition to determining the significance of the effect, the assessment process also includes a qualitative description regarding the nature of the effect. These terms add additional information about how the effect would affect receptors and can be seen in Table 12.5.

Table 12.5 – Assessment Descriptors

Term	Nature of Effects Descriptors
Adverse	An effect which has the potential to decrease receptor value or status relative to baseline conditions.
Beneficial	An effect which has the potential to increase receptor value or status relative to baseline conditions.
Short-term	Effects that persist only for a short time, e.g. during the construction (or decommissioning) phase only; includes reversible effects.
Medium-term	Effects that may persist until additional mitigation measures have been implemented and become effective.
Long-term	Effects that persist for a much longer time, e.g. for the duration of the operational phase (essentially until the development ceases or is removed / reinstated); includes effects which are permanent (irreversible) or which may decline over longer timescales.
Temporary	A reversible effect where recovery is possible and for which effects would persist only for a short or medium-term.
Frequent	Refers to a recurring effect that occurs repeatedly; in some cases a lower level of impact may occur with sufficient frequency to reduce the ability of a receptor to recover effectively.

Requirements for Mitigation

- 12.5.25 If significant likely potential effects are identified, appropriate mitigation will be implemented to remove and reduce the significance of the effects where possible.

Assessment of Residual Effect Significance

- 12.5.26 Residual effects are assessed following the methodology described above, taking into consideration the identified mitigation.

Cumulative Assessment

- 12.5.27 Transport Assessment guidance advises that only those projects with extant planning permission or local development plan allocations within an adopted or approved plan require to be included in any assessment. Those projects in scoping or not yet determined should not be included in cumulative assessments as they have yet to be determined.

Limitations to Assessment

- 12.5.28 The assessment is based upon average traffic flows in one month periods. During the month, activities at the site may fluctuate between one day and another and it is not possible to fully develop a day by day traffic flow estimate as no Balance of Plant (BoP) contractor has been appointed and external factors can impact upon activities on a day by day basis (weather conditions, availability of materials, time of year, etc).
- 12.5.29 Assumptions on the original points for materials have been made to provide a worst-case assessment scenario. Should these origin points change, the effects on the study area may alter to those presented in the assessment.
- 12.5.30 Construction material estimates set out in Technical Appendix 12.1 are based on past experience of what is likely to be required for a project of this size and are considered to be appropriate for enabling a robust assessment of effects to be made.
- 12.5.31 It is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on access, traffic and transport.

12.6 Baseline Conditions**Active Travel Network**

- 12.6.1 A review of the Scottish Borders Core Paths Plan (Tweedsmuir – Area 37) (2010) available on the SBC website indicates that there are no Core Paths within the site boundary.
- 12.6.2 A review of Sustrans cycle network plan of the United Kingdom revealed that there are no on-road cycle routes along the National Cycle Network within the study area.
- 12.6.3 The A701 comprises the route of the ‘Tour o’ the Borders’ which will return as a closed-road event on 07 September 2025, having previously taken place in 2023.
- 12.6.4 The length of the A701 road between Rachan and Tweedsmuir forms part of the Megget, Talla and Tweeddale 86 km route which is included in the Innerleithen Cycling Tours from the Scottish Borders Council’s Borders towns cycle routes.

Road Access

- 12.6.5 The A701 is a two-way single carriageway road which is generally subject to the national speed limit for vehicles less than 7.5 tonnes (t) outwith settlements, which reduces to 40 miles per hour (mph) and 30 mph when travelling through Moffat and 20 mph and 30 mph when travelling through Broughton.

Signage along the A701 shows that vehicles over 7.5 t are subject to a 40 mph speed limit, and there is also speed camera signage along the road. The A701 is generally in good condition however there are some locations along the road where deterioration is evident from online imagery. Signage along the road warns motorists of sharp bends and advises to reduce speeds. To the south of Campbell Hunter Woodland there is signage that warns motorists of the presence of deer in the area. There are some parking locations along the length of the road. The A701 is maintained by SBC and Dumfries and Galloway Council (DGC).

- 12.6.6 In Scotland, the M74/A74(M) provides a connection between Glasgow and Gretna Green. The M74/A74(M) comprises three lanes in each direction which are separated by a central reserve and is the responsibility of Transport Scotland. The M74 runs from Glasgow to Junction 13 at Abington, where it then becomes the A74(M) connecting to the A701 at Junction 15. South of the English border, the motorway is designated as the M6 and is the responsibility of National Highways.
- 12.6.7 The Agreed Timber Route Map¹ has been developed by The Timber Transport Forum who are a partnership of the forestry and timber industries, local government, national government agencies, timber hauliers and road and freight associations. One of the key aims of the forum is to minimise the impact of timber transport on the public road network, on local communities and the environment and a way of achieving this is to categorise the roads leading to forest areas in terms of their capacity to sustain the likely level of timber haulage vehicles i.e., HGVs. The routes are categorised into four groups, namely; 'Agreed Routes', 'Consultation Routes', 'Severely Restricted Routes' and 'Excluded Routes'.
- 12.6.8 Within the study area, the A701 forms part of the Agreed Route network used for the extraction of timber and is therefore regularly used by HGV traffic. Within the Agreed Timber Route Map, 'Agreed Routes' are categorised as routes used for timber haulage without restriction as regulated by the Road Traffic Act 1988. A-roads are classified as 'Agreed Routes' by default unless covered by one of the other road classifications.

Existing Baseline Traffic Conditions

- 12.6.9 In order to assess the impact of construction traffic on the study area, existing traffic data was obtained from the Transport Scotland database. Traffic data was also sourced from the Department for Transport (DfT) database at locations where traffic data was not available from Transport Scotland.
- 12.6.10 Available traffic data from 2019 was used to estimate existing traffic flows, as this data was not affected by COVID-19 travel restrictions. National Road Traffic Forecasts (NRTF) low growth factors were applied to the 2019 data to estimate 2024 flows. The low growth factor for 2019 to 2024 is 1.033.
- 12.6.11 The traffic survey locations are as follows and are shown on Figure 12.2:
1. A701, Broughton (DfT Count Point 50955);
 2. A701, Site Access (DfT Count Point 1064);
 3. A701, north-west of Moffat (DfT Count Point 30877);
 4. A701, south-west of Moffat (DfT Count Point 10875);
 5. A74(M), near Newton Wamphray northbound (TS Count Point ATC6_31N);
 6. A74(M), near Newton Wamphray southbound (TS Count Point ATC6_31S);
 7. A74(M), south of Crawford northbound (TS Count Point ATC6_22N); and
 8. A74(M), south of Crawford southbound (TS Count Point ATC6_22S).
- 12.6.12 The traffic count data allowed the traffic flows to be split into vehicle classes and the data have been summarised into cars/ light goods vehicles (lights) and HGVs (buses and all goods vehicles >3.5 tonnes gross maximum weight).

¹ Timber Transport Forum, 2024 Available at: <https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/>
'Agreed Routes' are categorised as routes used for timber haulage without restriction as regulated by the Road Traffic Act 1988. A-roads are classified as 'Agreed Routes' by default unless covered by one of the other road classifications. Those links classed as 'Consultation Routes' are categorised as a route which is key to timber extraction, but which are not up to 'Agreed Route' standard. Consultation with the local authority is required, and it may be necessary to agree limits of timing, allowable tonnage etc. before the route can be used. B-roads are classified as 'Consultation Routes' by default unless covered by one of the other classifications. 'Severely Restricted Routes' are not normally to be used for timber transport in their present condition. These routes are close to being Excluded Routes. Consultation with the local authority is required prior to use. Finally, 'Excluded Routes' should not be used for timber transport in their present condition. These routes are either formally restricted, or are close to being formally restricted, to protect the network from damaging loads.

12.6.13 The above sites were identified as being areas where sensitive receptors on the access routes would be located. Table 12.6 summarises the Annual Average Daily Traffic (AADT) traffic data collected and used in this assessment.

Table 12.6 – 24-hour Average Traffic Data (2024)

No.	Survey Locations	Cars & Lights	HGV	Total	% HGV
1	A701, Broughton	1,191	124	1,315	9
2	A701, Site Access*	942	100	1,042	10
3	A701, north-west of Moffat	1,253	98	1,351	7
4	A701, south-west of Moffat	6,237	312	6,549	5
5	A74(M), near Newton Wamphray northbound	11,654	5,853	17,507	33
6	A74(M), near Newton Wamphray southbound	11,752	5,739	17,492	33
7	A74(M), south of Crawford northbound	12,479	6,124	18,602	33
8	A74(M), south of Crawford southbound	12,598	5,993	18,592	32

Please note minor variances due to rounding may occur.

* Assumed that the DfT count site is located at the site access.

12.6.14 The two-way seven-day average and 85th percentile speeds observed at the Transport Scotland count sites are summarised in Table 12.7. No speed data is available at the DfT count points.

Table 12.7 – Speed Summary

No.	Survey Locations	Mean Speed (mph)	85th %ile Speed (mph)	Speed Limit (mph)
1	A701, Broughton	No Data Available		20.0
2	A701, Site Access			60.0
3	A701, north-west of Moffat			60.0
4	A701, south-west of Moffat			40.0
5	A74(M), near Newton Wamphray northbound	67.3	76.7	70.0
6	A74(M), near Newton Wamphray southbound	67.0	76.7	70.0
7	A74(M), south of Crawford northbound	67.7	77.3	70.0
8	A74(M), south of Crawford southbound	66.9	75.9	70.0

12.6.15 The speed information shown in Table 12.7 indicates that the 85th percentile speeds exceed the speed limit at all of the locations where speed information is available. The above results suggest that there is a need for greater enforcement at these count locations and greater enforcement measures may be required by the relevant authorities.

Accident Review

12.6.16 Road traffic accident data for the three-year period commencing 01 January 2020 through to the 31 December 2022 was obtained for within the study area. This information was sourced from the online resource CrashMap.co.uk which uses data collected by police about road traffic crashed occurring on British roads where an accident occurred. Transport Assessment Guidance requires an analysis of the Personal Injury Assessment (PIA) on the road network in the vicinity of any development to be undertaken for at least the most recent three year period,

12.6.17 The statistics are categorised into three categories, namely “slight” for damage only incidents, “serious” for injury accidents and “fatal” for accidents that result in a death.

12.6.18 The locations of the accidents recorded along the A701 within the study area are shown on Figure 12.3.

12.6.19 A summary analysis of the incidents indicates that:

- a total of 13 accidents were recorded along the A701, within the study area, during the three year period;
- of the 13 accidents, five were recorded as slight accidents, seven were recorded as serious accidents and one involved a fatality;
- the fatal accident involved a motorcycle single vehicle accident, and was recorded on a slight bend to the south of the SBC / DGC boundary;
- a total of eight accidents were recorded to involve motorcycles, of which five were single vehicle accidents;
- five of the accidents were recorded to involve cars, all of which were recorded as multi vehicle accidents;

- four accidents were recorded to involve HGVs, of which one was a multi vehicle accident, two accidents were recorded as single vehicle accidents not involving others and one was a single vehicle accident involving a pedestrian;
- the accident involving the pedestrian and a HGV occurred on the A701, between the A701 / High Street junctions in Moffat, and was classified as slight;
- an accident involving a pedestrian and a car occurred on the A701, near the A701 / Church Place junction in Moffat, and was classified as serious; and
- one accident involved a collision between a bicycle and a car at the A701 / High Street junction in Moffat, and was classified as slight.

12.6.20 Based on the information available, it has been established that there are no specific road safety issues within the immediate vicinity of the Proposed Development that currently require to be addressed or would be exacerbated by the construction of the Proposed Development. The majority of recorded accidents occurred on or approach to bends on the carriageway or in the vicinity of junctions, where there is an increased level of vehicle interaction.

Future Year Baseline

12.6.21 Construction of the Proposed Development could commence during 2029 if consent is granted and is anticipated to take approximately 18 months depending on weather conditions and ecological considerations.

12.6.22 To assess the likely effects during the construction phase, base year traffic flows were determined by applying a NRTF low growth factor to 2024. The NRTF low growth factor for 2024 to 2029 is 1.026. This factor was applied to the 2024 traffic data previously presented in Table 12.6 to estimate the 2029 Baseline traffic flows. The 2029 Baseline traffic flows are shown in Table 12.8.

Table 12.8 – 24-hour Average Traffic Data (2029)

No.	Survey Locations	Cars & Lights	HGV	Total	% HGV
1	A701, Broughton	1,222	127	1,349	9
2	A701, Site Access	967	103	1,069	10
3	A701, north-west of Moffat	1,286	101	1,386	7
4	A701, south-west of Moffat	6,399	320	6,719	5
5	A74(M), near Newton Wamphray northbound	11,957	6,005	17,962	33
6	A74(M), near Newton Wamphray southbound	12,058	5,889	17,947	33
7	A74(M), south of Crawford northbound	12,803	6,283	19,086	33
8	A74(M), south of Crawford southbound	12,926	6,149	19,075	32

Please note minor variances due to rounding may occur.

12.6.23 Note, if the Proposed Development did not proceed, or proceeded later than currently predicted (i.e. later than 2029), traffic growth will occur and the public roads within the study area will experience increased traffic flows resulting from other development pressures, tourism traffic and population growth. Accordingly, the assessment represents a worst case as the contribution of the Proposed Development in relative terms would decrease in the future.

12.7 Standard Mitigation

Design Considerations

12.7.1 Borrow pits would be located on-site and are expected to meet 100 % of material requirements for the access tracks, hardstandings and compound sub-bases. To provide a robust and maximum case assessment, it has been assumed that 50 % of the material requirements would be imported to site.

Access Junction

12.7.2 Access to the Proposed Development would be via a simple priority access junction from the A701.

12.7.3 The access junction would be designed to accommodate all predicted loads and traffic for all phases of the Proposed Development. An indicative junction layout is provided in Figure 12.5.

12.8 Receptors Brought Forward for Assessment

12.8.1 A review of sensitive receptors has been undertaken within the study area. Table 12.9 details the receptors and their sensitivities for use within the following assessment. A justification for the sensitivity has been provided, based upon the details contained in Table 12.2.

Table 12.9 – Summary of Sensitive Receptors

Receptor	Sensitivity	Justification
Users of A701	Medium	Where the road is a local A or B class road, capable of regular use by HGV traffic.
Users of A74(M)	Negligible	Where roads have no adjacent settlements. Includes new strategic trunk roads that would be little affected by additional traffic and suitable for AILs and new strategic trunk road junctions capable of accommodating AILs.
Broughton Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Residents and receptors along the A701, including Tweedsmuir Village Hall (excluding Broughton and Moffat)	Low	Where a location is a small rural settlement, few community or public facilities or services..
Moffat Residents	High	Where a location is a large rural settlement containing a high number of community and public services and facilities.

12.8.2 Based on the indicators which are stated within the IEMA Guidelines, the following locations are identified as sensitive receptors in this assessment due to the presence of schools, churches, medical practices: historical buildings, tourist attractions for example.

- Residents along the A701 including Tweedsmuir Village Hall;
- Broughton; and
- Moffat.

12.8.3 These locations are therefore subject to 'Rule 2' of the IEMA Guidelines which requires a full assessment of effects if the locations are subject to an increase in 10 % of traffic.

12.8.4 All other locations within the study area are subject to 'Rule 1' and are assessed if traffic flows (or HGV flows) on road links increase by more than 30 %.

12.9 Potential Effects

Construction

12.9.1 The assessment is based upon the construction effects that may occur within the study area during the approximate 18-month construction programme. To assess the effects, it is necessary to determine the likely traffic generation associated with the Proposed Development during the peak construction month.

12.9.2 During the approximate 18-month construction period, the following traffic would require access to the site:

- staff transport, either cars or staff minibuses;
- construction equipment and materials, deliveries of machinery and supplies;
- components relating to the battery storage element and associated infrastructure;
- AILs consisting of the wind turbine components and heavy lift crane(s); and
- escort vehicles for AIL deliveries.

12.9.3 Average monthly traffic flow data were used to establish the construction trips associated with the Proposed Development and are detailed in the Transport Assessment included as Technical Appendix 12.1. The trip estimates have been based upon first principle estimates of traffic movements to and from the site, having established the likely volumes of construction materials, resources and components.

12.9.4 Except for the turbine components, most traffic would be normal construction plant and would include grading tractors, excavators, high capacity cranes, forklifts and dumper trucks. Most would arrive at the site on low loaders. The turbine components would be delivered in component sections (approximately 14 per turbine see Technical Appendix 12.1) for ease of transport and would be assembled at the site. The nacelle, hub, drive train, blade, tower sections are classified as AIL due to their weight and / or length, width and height when loaded. The components can be delivered on a variety of transport platforms with typical examples illustrated in Technical Appendix 12.1.

12.9.5 The most appropriate POE for the site is King George V (KGV) Docks in Glasgow. A full description of the routes is included within Technical Appendix 12.1 Annex A.

12.9.6 If consented, the Applicant would engage in detailed discussions with the turbine suppliers, haulage contractors, Transport Scotland, Police Scotland and road authorities with regards to an agreed POE strategy and AIL delivery route.

12.9.7 In addition to the turbine deliveries, two high capacity erection cranes would be needed to offload some components and erect the turbines. The cranes are likely to be a mobile cranes with a capacity up to

- 1,000 tonnes that would be escorted by boom and ballast trucks to allow full mobilisation on site. A smaller erector / assist crane would also be present to allow the assembly of the main cranes and to ease overall erection of the turbines. Confirmation on the proposed type and number of cranes used on-site would be confirmed following selection of the candidate turbine and appointment of both the haulage and crane contractors. Information on this would be provided to the relevant authorities as part of the CTMP and secured by a suitably worded planning condition.
- 12.9.8 The trip estimates have been assigned to the proposed construction programme to allow the identification of the peak of construction traffic to be established. The construction programme is provided in Technical Appendix 12.1.
- 12.9.9 To provide a robust assessment of potential traffic impact, it has been assumed that 50 % of the material for tracks, hardstandings and compound areas would be imported to the site. This represents an overestimate, given that the borrow pit assessment that has been undertaken estimating that 100 % of the required material can be won on-site. The assessment is therefore an over-estimate and is considered robust.
- 12.9.10 The resulting traffic generation profile is presented in Technical Appendix 12.1. The maximum traffic effect associated with construction of the Proposed Development is predicted to occur in Month 4 of the construction programme. During Month 4, an average of 42 HGV movements are predicted per day and it is estimated that there would be a further 30 car and lights movements per day to transport construction workers to and from the site.
- 12.9.11 The distribution of development traffic on the network would vary depending on the types of loads being transported. The assumptions for the distribution of construction traffic during the peak months is as follows.
- All construction traffic enters the site via the new / upgraded forest access junction from the A701.
 - For the purpose of this assessment, it is assumed that deliveries associated with cement, water, sand and aggregates would be delivered from suppliers located off the A74(M) to the south, and via A701.
 - It is assumed that 50 % of aggregate material requirements would be imported to the site and would be delivered from the quarries to the north of the site, near Peebles via the A72 and A701. The BoP contractor will confirm final quarry and material sourcing with the SBC in the CTMP.
 - HGV deliveries associated with the High Voltage (HV) electrical installation, cables, control buildings, batteries, etc would arrive from the Central Belt via the A74(M) from the north.
 - Staff working at the site are likely to be based locally. It is assumed that 20 % would be based to the north of the site and 20 % would be based in Moffat. It is also assumed that 30 % of staff would arrive from the north via the A74(M) and 30 % would arrive from the south via the A74(M) and would access the site via the A701.
 - General site deliveries are assumed to arrive from the north via the A701 to the site. These are generally smaller rigid HGV vehicles.
- 12.9.12 Loads relating to the turbine components would be delivered from KGV Docks in Glasgow. The access route within the study area is shown on Figure 12.4 while the whole route would be as follows.
- Loads would exit KGV Docks in Glasgow onto Kings Inch Drive.
 - Loads would continue along Kings Inch Drive before turning left onto the M8 slip road, Mayo Avenue.
 - Loads would then merge onto the M8 at Junction 25A.
 - Vehicles would continue east on the M8 to Junction 21 where they would join the M74 travelling south.
 - Loads would depart the A74(M) at Junction 15.
 - Loads would turn left at the Junction 15 roundabout and would join the A701 northbound, passing through Moffat.
 - Vehicles would continue on the A701 northbound.
 - To the south of Tweedsmuir, loads would turn left into an upgraded access junction and into the site.
- 12.9.13 The proposed AIL delivery route within the study area, is presented in Figure 12.4.
- 12.9.14 Following the distribution and assignment of traffic flows to the study area network, the resultant daily traffic during the peak of construction in Month 4 were compared with the 2029 baseline traffic to

provide a percentage change in movements at each count location within the study area, as shown, is summarised in Table 12.10.

Table 12.10 – Peak Construction Traffic Network Impact

No.	Survey Locations	Cars & Lights	HGV	Total	% Increase in Cars & Lights	% Increase in HGV	% Increase in Total Traffic
1	A701, Broughton	1,228	153	1,381	0.49	20.16	2.34
2	A701, Site Access	997	145	1,141	3.10	40.57	6.71
3	A701, north-west of Moffat	1,310	117	1,426	1.87	15.97	2.89
4	A701, south-west of Moffat	6,417	336	6,754	0.28	5.02	0.51
5	A74(M), near Newton Wamphray northbound	11,962	6,011	17,973	0.04	0.10	0.06
6	A74(M), near Newton Wamphray southbound	12,063	5,897	17,959	0.04	0.14	0.07
7	A74(M), south of Crawford northbound	12,808	6,285	19,093	0.04	0.04	0.04
8	A74(M), south of Crawford southbound	12,931	6,149	19,080	0.03	0.00	0.02

- 12.9.15 The highest total traffic movement increase within the study area is along the A701, near the site access junction with a total traffic increase of 6.71 %. The total increase along the other links within the study area are considerably less than 10 %, which is considered to be within daily flow variations.
- 12.9.16 The total HGV traffic movements are expected to increase by up to 40.57 % (42 two-way HGV movements) on the A701 near the site access junction.
- 12.9.17 Whilst this could be considered a large increase in percentage terms, it is not considered to be a significant increase when considering vehicle numbers, with the maximum average 42 HGV movements per day predicted along the A701, which equates to approximately four two-way HGV movements per hour over a typical 12 hour working day.
- 12.9.18 It should be noted the construction phase is transitory in nature and the peak of construction activities is short lived, occurring over a relatively short timeframe when taking account of the whole construction programme.
- 12.9.19 A review of existing road capacity has been undertaken using “The NESMA Manual”, formerly part of the Design Manual for Roads and Bridges (2013). The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the study area. The results are summarised in Table 12.11.

Table 12.11 – Daily Traffic (12h) Capacity Review Summary

No.	Survey Locations	2029 Baseline	2029 Baseline + Development	Theoretical Capacity (12 hours)	% Spare Capacity
1	A701, Broughton	1,349	1,381	19,200	92.81
2	A701, Site Access	1,069	1,141	19,200	94.06
3	A701, north-west of Moffat	1,386	1,426	21,600	93.40
4	A701, south-west of Moffat	6,719	6,754	21,600	68.73
5	A74(M), near Newton Wamphray northbound	17,962	17,973	68,400	73.72
6	A74(M), near Newton Wamphray southbound	17,947	17,959	68,400	73.74
7	A74(M), south of Crawford northbound	19,086	19,093	68,400	72.09
8	A74(M), south of Crawford southbound	19,075	19,080	68,400	72.11

Please note minor variances due to rounding may occur.

- 12.9.20 The results indicate there are no road capacity issues with the addition of construction traffic associated with the Proposed Development and significant spare capacity exists within the trunk and local road network to accommodate all construction phase traffic.
- 12.9.21 In accordance with the IEMA Guidelines Rules 1 and 2 and based on the construction traffic data shown in Table 12.10, detailed assessments have been undertaken on the Users of A701 (medium sensitivity).
- 12.9.22 It is acknowledged that there would be other months within the overall construction programme as shown in Table 12 of Technical Appendix 12.1, which would also be above the threshold for undertaking detailed assessment, however the assessment focusses on the peak month only, which is the worst case in terms of potential impacts. Other months would still result in impacts within the study area; however, these would be less than the predicted peak month.

12.9.23 The significance of the potential effects on the above receptors has been determined using the rules and thresholds previously outlined in the Criteria for Assessing Significance. Table 12.12 summarises the significance of the effect on the receptors for the construction phase, prior to mitigation measures being applied.

Table 12.12 – Overall Construction Phase Effects Assessment

Receptor	Severance	Driver Delay	Pedestrian Delay	Non-motorised user Amenity	Fear & Intimidation	Road Safety	Large Loads
Users of A701	Minor	Minor	Minor	Minor	Minor	Minor	Minor

12.9.24 Prior to the introduction of mitigation, it is considered that only **minor** effects would arise from the construction phase.

Decommissioning

12.9.25 The traffic effects during the decommissioning phase can only be fully assessed closer to that period, 50 years on from the completion of construction of the Proposed Development. As elements of the Proposed Development are likely to remain in-situ (such as some access tracks), the traffic flows associated with the decommissioning works will be lower than those associated with the construction phase. The construction phase therefore represents a worst-case assessment, and as such decommissioning effects are considered to be less than or equal to, the predicted construction phase effects.

12.9.26 However, it should be noted that prior to decommissioning of the site, a traffic assessment would be undertaken in accordance with best practice guidance at that time, and appropriate traffic management procedures followed.

12.10 Additional Mitigation and Enhancement

Construction Phase

12.10.1 During the construction phase HGV traffic levels are expected to increase by 40.57 % on sections of the A701. The following mitigation measures are proposed to mitigate the effects of the increase in construction traffic and reduce the significance of effect.

Outline Construction Traffic Management Plan (CTMP)

12.10.2 During the construction period, a project website, blog or Twitter feed would be regularly updated to provide the latest information relating to traffic movements associated with vehicles accessing the site. This would be agreed with SBC.

12.10.3 The following measures would be implemented during the construction phase through the outline CTMP:

- agree AIL route modifications and improvements with SBC and other relevant stakeholders. Works which would be required to facilitate turbine deliveries are outlined in the respective delivery route options RSR, which are presented in Technical Appendix 12.1 as Annex A;
- where possible, the detailed design process would minimise the volume of material to be imported to site to help reduce HGV numbers;
- a Staff Travel Plan, including transport modes to and from the worksite (including pick up and drop off times);
- a Transport Management Plan for AIL deliveries;
- all materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads;
- specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- wheel cleaning facilities may be established at the site entrance, depending on the views of SBC;
- normal site working hours would be limited to between 0700 and 1900 (Monday to Friday) and 0700 and 1300 (Saturday), though component delivery and turbine erection may take place outside these hours;
- appropriate traffic management measures would be put in place on the A701, to avoid conflict with general traffic, subject to the agreement of SBC. Typical measures would include HGV turning and crossing signs and/or banksmen at the site access and warning signs;

- provide construction updates on the project website and or a newsletter to be distributed to residents within an agreed distance of the site;
 - adoption of voluntary reduced speed limits at locations to be agreed with SBC; and
 - all drivers would be required to attend an induction to include:
 - a toolbox talk safety briefing;
 - the need for appropriate care and speed control;
 - a briefing on driver speed reduction agreements (to slow site traffic at sensitive locations through the villages); and
 - identification of the required access routes and the controls to ensure no departure from these routes.
- 12.10.4 Roads Authorities may request that an agreement to cover the cost of abnormal wear and tear on its road network is made. Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route would be recorded to provide a baseline of the condition of the road prior to any construction work commencing. This baseline would provide evidence of any change in the road condition during the construction phase. Any necessary repairs will be coordinated with the appropriate roads team. Any damage caused by traffic associated with the Proposed Development during the construction period, that would be hazardous to public traffic, would be repaired immediately.
- 12.10.5 Any damage to road infrastructure caused directly by construction traffic would be made good, and street furniture that is removed on a temporary basis would be fully reinstated.
- 12.10.6 There would be a regular road review, and any debris and mud would be removed from the carriageway using an on-site road sweeper to ensure road safety for all road users.
- 12.10.7 Before the AILs traverse the routes from the POE, the following tasks would be undertaken to ensure load and road user safety:
- ensure any vegetation which may foul the loads is trimmed back to allow passage;
 - confirm there are no roadworks or closures that could affect the passage of the loads;
 - check no new or diverted underground services on the proposed route are at risk from the abnormal loads; and
 - confirm the police are satisfied with the proposed movement strategy.

AIL Route Survey Report

- 12.10.8 The AIL RSR highlights a number of pinch points on the proposed access route, which have been assessed within the report using swept path assessment software. The locations of the pinch points and the swept path drawings are included in Technical Appendix 12.1.
- 12.10.9 The RSR identifies key points and issues associated with the route that require mitigation works. Examples of the anticipated mitigation works include temporary removal of obstacles such as street furniture, lighting columns, traffic / pedestrian crossing signals, road signs, bollards, fences / barriers and utility poles. It is also proposed to introduce traffic management measures such as suspension of parking as well as vegetation trimming, the provision of load bearing surfaces and land profiling to determine if tar wedges are required. An upgraded access junction will also be provided. These works are to be agreed with relevant roads authorities and other relevant stakeholders.
- 12.10.10 AIL mitigation works can be designed to be temporary in nature to enable the restoration to their original condition (if required by the Council).

Abnormal Load Transport Management Plan (TMP)

- 12.10.11 There are a number of traffic management measures that could help reduce the effect of AIL convoys which will be included in the TMP.
- 12.10.12 All AIL deliveries would be undertaken at appropriate times (to be discussed and agreed with the road authorities and police) with the aim to minimise the effect on the local road network. It is likely that the AIL convoys would travel in the early morning periods before peak times while general construction traffic would generally avoid the morning and evening peak periods.
- 12.10.13 The majority of potential conflicts between construction traffic and other road users would occur with AIL traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them.

12.10.14 Potential conflicts between the AIL and other road users can occur at a variety of locations and circumstances. The main potential conflicts are likely to occur:

- on sections of the local road network, for example on the A701;
- at locations where there are significant changes in the horizontal alignment of the carriageway, requiring the loads to use the full carriageway width;
- where traffic turns at road junctions, requiring other traffic to be restrained on other approach arms; and
- in locations where high speeds of general traffic are predicted.

12.10.15 Advance warning signs would be installed on the approaches to the affected road network. Flip up panels would be used to mask over days where convoys would not be operating. When no convoys are moving the sign would be bagged over by the Traffic Management contractor.

12.10.16 This signage would assist in helping improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).

12.10.17 The location and numbers of signs would be agreed post consent and would form part of the Traffic Management Proposal for the project.

12.10.18 The AIL Transport Management Plan would also include:

- procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking;
- a diary of proposed delivery movements to liaise with the communities to avoid key dates such as local events;
- a protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and
- proposals to establish a construction liaison group to ensure the smooth management of the project / public interface with the Applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

On-site Measures Delivered using an Access Management Plan (AMP)

12.10.19 Within the site, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the paths. A Preliminary Access Management Plan (PAMP) is provided as Technical Appendix 14.1 which includes a path planning study as Figure 14.1.1. The PAMP will be developed into an AMP to be delivered via an appropriately worded planning condition.

Staff Travel Plan

12.10.20 A Staff Travel Plan will be deployed where necessary, to manage the arrival and departure profile of staff and to encourage sustainable modes of transport, especially car-sharing. A package of measures could include:

- appointment of a Travel Plan Coordinator (TPC);
- provision of public transport information;
- mini-bus service for transport of site staff;
- promotion of a car-sharing scheme;
- restrictions on parking, for example on the public road network and verges in the vicinity of the site entrance; and
- car parking management.

12.11 Residual Effects

12.11.1 Following the application of mitigation measures during the construction phase, the significance of the residual effects of A701 users will be **minor / negligible** and not significant. The residual effects are temporary and reversible.

12.11.2 There are no residual effects anticipated during the operational phase.

12.12 Cumulative Assessment

- 12.12.1 A review of surrounding developments on the Energy Consents Unit (ECU) database and SBC's, South Lanarkshire Council's (SLC) and DGC's Planning Portals have been undertaken in order to identify a number of consented (i.e., committed developments) proposals in the surrounding area which are anticipated to impact on the study area.
- 12.12.2 TA guidance² advises that only those projects with extant planning permission or local development plan allocations within an adopted or approved plan require to be included in any assessment. Those projects in scoping or not yet determined should not be included in cumulative assessments as they have yet to be determined. When considering traffic impacts specifically in relation to the construction phase of a project, the potential traffic impact is highly speculative and as such, cannot be included in the assessment.
- 12.12.3 In order to inform the planning authorities of possible issues if the consented sites were to be constructed concurrently with the Proposed Development, a combined sensitivity review will be undertaken as part of the cumulative assessment. As a robust assessment, the sensitivity review will assess the wind farm development's peak construction period.

Local Wind Farms

- 12.12.4 A review of surrounding wind farm planning applications within 15 km has been undertaken and the findings of this are detailed in the following paragraphs.
- 12.12.5 A review was undertaken of Glenkerie Wind Farm's application to extend the operational period of the existing wind farm for a further ten years, from 25 years to 35 years. A review of the online planning submission documents associated with the time extension application shows that transport has been scoped out of the EIA as "*The extension of the operational life of Glenkerie will not generate any significant additional regular traffic movements*". As such, trips associated with Glenkerie Wind Farm's application to extend its operational period by an additional ten years will not be considered as committed development and is not included as cumulative development in the combined sensitivity review.
- 12.12.6 Glenkerie Wind Farm Extension was granted planning permission for a total of six wind turbines following an appeal on 29 July 2015. An online search did not find any recent information regarding plans to commence construction of the wind farm. However, as Glenkerie Wind Farm Extension has planning consent, it is included as cumulative development within the combined sensitivity review.
- 12.12.7 An application to vary the consent for the approved Whitelaw Brae Wind Farm was granted on 23 November 2021. The wind farm is currently under construction with advanced felling and access tracks being installed. A review of the project timeline notes that in Summer 2026 that the grid connection should be complete and final turbines will be erected and commissioned. As such, it is expected that Whitelaw Brae Wind Farm will be constructed prior to the commencement of the Proposed Development's construction phase and is therefore will not be included as cumulative development within the combined sensitivity review.
- 12.12.8 An application for an Overhead Line (OHL) connection for Whitelaw Brae Wind Farm has been made which is currently at application stage. A review of the online planning application documents notes that construction traffic movements associated with the proposal can be accommodated within the capacity of the A701. As the construction traffic movements can be accommodated and as the proposal does not have planning permission, it is therefore not included as cumulative development in the combined sensitivity review.
- 12.12.9 A review of the Grayside Wind Farm application indicates that the wind farm has not yet received planning consent and as such it cannot be considered as a committed development. It should also be noted that a review of the associated online planning submission documents found that general construction traffic associated with the development would not impact the Proposed Development's Study Area. For these reasons, Grayside Wind Farm is not included as cumulative development in the combined sensitivity review.
- 12.12.10 Priestgill Wind Farm will comprise a total of seven wind turbines and was granted planning permission on 30 March 2021. A review of online planning submission documents indicates that general construction traffic will not impact the Proposed Development's Study Area and as such is not included as cumulative development in the combined sensitivity review.
- 12.12.11 To inform the planning authorities of possible issues if all of the sites whose construction traffic would impact the study area were constructed concurrently, a combined scheme sensitivity review has been undertaken of Glenkerie Wind Farm Extension and the Proposed Development.

² UK Government, (2014) It is important to give appropriate consideration to the cumulative impacts arising from other committed development (i.e. development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next 3 years).

12.12.12 The peak traffic flows for all sites were obtained from their respective planning application documents (see Table 12.13) and then compared to the future baseline year (2029) on Table 12.14.

Table 12.13 – Combined Scheme Sensitivity Review Peak Construction Traffic Summary (2029)

No.	Survey Locations	Oliver Forest Cars & Lights	Oliver Forest HGV	Glenkerie Wind Farm Extension Cars & Lights	Glenkerie Wind Farm Extension HGV	Total Cars & Lights	Total HGV
1	A701, Broughton	6	26	68	34	74	59
2	A701, Site Access	30	42	9	3	39	45
3	A701, north-west of Moffat	24	16	12	1	36	17
4	A701, south-west of Moffat	18	16	0	1	18	18
5	A74(M), near Newton Wamphray northbound	5	6	0	0	5	6
6	A74(M), near Newton Wamphray southbound	5	8	0	0	5	8
7	A74(M), south of Crawford northbound	5	2	0	0	5	2
8	A74(M), south of Crawford southbound	5	0	0	0	5	0

Table 12.14 – Combined Scheme Sensitivity Traffic Impact Summary (2029)

No.	Survey Locations	Cars & Lights	HGV	Total	% Increase in Cars & Lights	% Increase in HGV	% Increase in Total Traffic
1	A701, Broughton	1,296	186	1,482	6.02	46.58	9.84
2	A701, Site Access	1,005	147	1,153	4.02	43.45	7.81
3	A701, north-west of Moffat	1,322	118	1,440	2.83	17.04	3.86
4	A701, south-west of Moffat	6,417	338	6,755	0.28	5.47	0.53
5	A74(M), near Newton Wamphray northbound	11,962	6,011	17,973	0.04	0.10	0.06
6	A74(M), near Newton Wamphray southbound	12,063	5,897	17,959	0.04	0.14	0.07
7	A74(M), south of Crawford northbound	12,808	6,285	19,093	0.04	0.04	0.04
8	A74(M), south of Crawford southbound	12,931	6,149	19,080	0.03	0.00	0.02

12.12.13 The combined traffic flows indicate that the largest increase in total traffic flows and HGV flows will be along the A701, there would however be sufficient spare road capacity to accommodate this in the event that the two schemes are constructed at the same time. From Table 12.11 it can be seen that those locations on the A701 experiencing the largest increases have in excess of 90% capacity available and the addition of the 102 vehicle movements associated with the Glenkerie wind farm will not materially affect the operation of the road.

12.12.14 Any effects of all the sites being constructed at the same time would be mitigated through the use of an overarching Traffic Management and Monitoring Plan (TMMP) for all of the sites and by introducing a phased delivery plan which would be agreed with the local council roads department and Police Scotland.

12.12.15 Furthermore, it is not predicted that the potential traffic flow increases could ever occur on the study area for the following reasons:

- It is extremely unlikely that the peak traffic conditions will occur at the same time due to differences in construction programmes, material supplies and developer resources; and
- All abnormal load deliveries cannot occur at two separate sites on the same day due to restrictions on the number of loads moving on the network at the same time set by Police Scotland.

Other Planning Applications

12.12.16 A review of the SBC's, SLC's and DGC's online planning portals was also undertaken for any other developments with planning consent, which should be considered within this assessment. The review examined consented developments whose trips are considered significant in scale (i.e. has associated traffic impact of over 10%).

12.12.17 The application of 'low' NRTF growth factor to the background traffic, is considered robust for addressing smaller, non-significant traffic generation caused by smaller developments within the study

area. This allows for future year scenarios to be assessed, which include an increase in baseline traffic flows. As such, a robust assessment case has been provided in this report.

12.13 Summary

- 12.13.1 The Proposed Development will lead to increased traffic volumes on a number of roads in the vicinity of the site during the construction phase. These will be of a temporary timescale and transitory in nature.
- 12.13.2 The peak of construction would occur in Month 4 with 72 journeys predicted (30 cars / lights and 42 HGVs).
- 12.13.3 No link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development.
- 12.13.4 With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect of traffic and transport issues. The residual effects are all assessed to be **minor / negligible** and will occur during the construction phase only, they are temporary and reversible.
- 12.13.5 Traffic levels during the operational phase of Proposed Development will be up to two vehicles per week for maintenance purposes.
- 12.13.6 Traffic levels during the decommissioning of the Proposed Development are expected to be lower than during the construction phase as some elements are likely be left in situ and others broken up on-site.
- 12.13.7 The movement of AIL traffic would require small scale and temporary remedial works at a number of locations along the identified delivery route.

12.14 References

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