Chapter 11 Traffic and Transport

Contents

11 Traffic and Transport

11.1 Introduction

11.1.1 This chapter considers the likely significant effects on receptors along the transport routes resulting from vehicle movements associated with the construction and operation of the Proposed Development. The specific objectives of the chapter are to:

- describe the current 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 the likely significant effects;
- assess the residual effects remaining following the implementation of mitigation measures.

11.1.2 The technical reviewer of the traffic and transport assessment is Gordon Buchan BEng (Hons), MSC, CMILT, FCIHT, Divisional Director of Pell Frischmann. 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. The author is Elaine Moran BEng (Hons), MSC, MCIHT, Transport Planner. She has over eight years of experience in the transport planning industry.

11.1.3 The chapter is supported by:

- **Technical Appendix 11.1**: Transport Assessment.

11.1.4 **Figures 11.1 - 11.4** are referenced in the text where relevant.

11.2 Legislation, Policy and Guidance

Legislation

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

Policy

11.2.2 This assessment has been undertaken in accordance with policies outlined in the following plans:

National Planning Framework 4 (NPF4) (2023);
Midlothian Local Development Plan (2017); and
Scottish Borders Council Local Development Plan (2016).

Guidance

11.2.3 This assessment has been carried out in accordance with the principles outlined in the following documents:

- Guidelines for the Environmental Assessment of Road Traffic (1993);
- Environmental Assessment of Traffic and Movement (2023);
- Guidelines for Environmental Impact Assessment (2005);
- Design Manual for Roads and Bridges (DMRB), LA 104 Environmental Assessment and Monitoring (Revision 1) (2020);
- Planning Advice Note (PAN) 75 (2005);
- Transport Assessment Guidance, (2012);
- Onshore Wind Turbines: Planning Advice (2014); and
- Scottish Borders Council Supplementary Guidance Renewable Energy (2016).

11.3 Consultation

11.3.1 In undertaking the assessment, consideration has been given to the scoping responses and other consultation undertaken as detailed in **Table 11.1** below.

Table 11.1: Consultation Responses

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
Midlothian Council 13 February 2023	Scoping	The Scoping Report identifies the preferred route / study area, which includes the following Midlothian adopted roads (paragraph 9.3.2): - turn right onto B6458/ B6367 - turn right onto A7 - continue on A7 and before North Middleton turn left onto B7007 towards site access	The preferred Abnormal Indivisible Load (AIL) delivery route is presented in the **Technical Appendix 11.1**: Transport Assessment, Annex A AIL Route Survey Report (RSR). The proposed study area is presented **Technical Appendix 11.1** and within the Baseline Conditions: Study Area in this chapter.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
		Where the construction and access route passes through Midlothian, the Council requests that its Road and Planning Services are consulted and kept fully informed in the development of the proposal. In relation to Consultee Lists (paragraphs 9.4.4 and 9.8.1), please include Midlothian Council.	Comment noted.
		Our baseline requirements during any consultation is that any accommodation measures required on the public road network through Midlothian, including the removal of street furniture, removal of lighting columns, junction widening, over-run areas, temporary traffic management etc. require to be agreed with Midlothian Council Road Services prior to work commencing on site.	Comment noted. The proposed measures required to accommodate the delivery of AILs are provided in the RSR which is provided as part of Technical Appendix 11.1.
		Structures One structure on the preferred route that may be an issue is Tynehead Railway Bridge, close to the B6458/ B6367 junction. This is a Network Rail owned bridge and they have imposed weight limits of between 41t and 54t gvw, depending on the Category of the abnormal load vehicle. This could be critical, so Midlothian Council suggest the applicant consults with Network Rail regarding their proposed route.	Comment noted. A weight review is presented as part of the RSR in **Technical Appendix 11.1** via Electronic Service Delivery for Abnormal Loads (ESDAL) contacts database.
		Construction and access routes The length of the loads	Swept path assessments have analysed pinch points along the proposed AIL delivery route. The swept path

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
		could be an issue for the Midlothian road network more generally, in particular at the junctions (A68/ B6458; B6458/ B6367; B6367/ A7; A7/ B7007) and tight bends e.g. the relatively tight bend immediately west of Tynehead Railway Bridge. Midlothian Council recommend that the assessment referred to in paragraph 9.4 will look at all these issues in more detail.	drawings as well as proposed mitigation measures are presented as part of the RSR which is presented as part of **Technical Appendix 11.1.**
		Any accommodation works will require Roads (Scotland) Act 1984 Section 56 consent and required to be carried out by the hauliers/ developers appointed roadworks contractor and at the expense of the developer.	Comment noted. It is anticipated that this will form a planning condition post consent.
		Midlothian Council requests that full and exact details of the proposed construction and access routes and points are identified and assessed as part of the EIA. This should include proposed widths and finishes to any temporary or permanent access tracks, and any other infrastructure, in order to assess the impacts of the construction and access routes if they pass through Midlothian.	Details of the proposed construction and access routes are presented in Technical Appendix 11.1 and within the Baseline section, Study Area Road Network sub-section within this chapter.
		The EIA needs to be accompanied by a full swept path analysis that identifies whether the vehicles and turbine components will be able to pass along the identified construction and access routes, and whether any trees or hedgerows along the	The RSR presented in **Technical Appendix 11.1** outlines the locations along the proposed delivery route which requires trees and vegetation to be trimmed or cleared in order to accommodate the delivery of turbine components.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
		route in Midlothian will be affected. The Council's starting position is that there should be no loss of trees and hedges and everything possible should be done to retain them. The extent of potential impact on trees and hedgerows should be identified, assessed and mitigation measures, if necessary, set out, e.g. replacement proposals for any trees or hedgerows that might be lost to allow construction traffic to pass.	It is proposed that consultation with Midlothian Council will be undertaken prior to any implementation of the proposed mitigation measures outlined in the RSR.
Transport Scotland 09 February 2023	Scoping	Assessment of Environmental Impacts Chapter 9 of the SR presents the proposed methodology for the assessment of access, traffic and transport during the construction of the development. This indicates that the thresholds as indicated within the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic are to be used as a screening process for the assessment. Transport Scotland is in agreement with this approach.	Comment noted.
		Transport Scotland would state that potential trunk road related environmental impacts such as driver delay, pedestrian amenity, severance, safety etc will require to be considered and assessed where appropriate (i.e. where the IEMA Guideline thresholds for further	Comment noted. The potential trunk road related environmental impacts in relation to the updated IEMA Guidelines (2023) and will include: • Severance; • Driver delay; • Pedestrian delay; • Non-motorised user

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
		assessment are breached). These specify that road links should be taken forward for detailed assessment if: • 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.	amenity; • Fear and intimidation; • Road Safety; • Road safety audits; and • Large loads. Assessment will be undertaken on sensitive receptors if: • 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.
		The SR indicates that traffic data for the road network will be obtained from UK Government Department for Transport (DfT) traffic count data, the Traffic Scotland database or from specifically commissioned traffic surveys. We also note that 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.	Comment noted.
		Transport Scotland is satisfied with this approach and would add that where significant changes in traffic are not noted for any link, no further assessment needs to be undertaken. We would ask that DfT "estimated" traffic flows are not used in the assessment.	Comment noted. Along the A68 (T), there is traffic information available which was counted in 2019 for the Department for Transport (DfT) Count Site 30734 and 2023 (January to September) for Transport Scotland Count Site ATCSE013.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
		It is noted that any impacts associated with the operational phase of the development are to be scoped out of the EIA. We would consider this to be acceptable in this instance.	Comment noted.
		Abnormal Loads Assessment Chapter 9.3 indicates that the study area will include the abnormal load route from King George V docks in Glasgow to the site, as follows: • Exit KGV onto King Inch Dr. • Turn left onto M8 slip road and merge into M8. • At junction 1 (Hermiston Gait Roundabout) take the 3rd exit and merge into the City of Edinburgh Bypass (A720(T)). • Take the 3rd exit to continue onto A720(T). • On A1 – The City of Edinburgh bypass (A720(T)) roundabout take the 4th exit towards A720(T). • Take the slip road towards A68(T) and turn left onto A68(T). • Turn right onto B6458/B6367. • Turn right onto A7(T). • Continue on A7(T) and before North Middleton turn left onto B7007 towards site access. It should be noted that Transport Scotland will require to be satisfied that the size of turbines proposed can negotiate the selected route and that their transportation will not have any detrimental effect on	A RSR has been undertaken which assesses the proposed AIL delivery route from the Port of Entry (POE) at the Port of Rosyth to the site. The RSR is provided as part of **Technical Appendix 11.1**.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
		structures within the trunk road route path.	
		A full Abnormal Loads Assessment report should be provided with the EIA Report that identifies key pinch points on the trunk road network. Swept path analysis should be undertaken and details provided with regard to any required changes to street furniture or structures along the route.	A RSR contains swept path analysis and is provided as part of **Technical Appendix 11.1**.
		We note that the SR states that a Construction Traffic Management Plan (CTMP) will be developed. This is welcomed and a copy should be forwarded for review when available.	An outline CTMP is provided in Section 11.7 Mitigation in this chapter. Should the Proposed Development be granted planning consent, it is proposed that a full CTMP will be secured through a planning condition and delivered by the Contractor.
ScotWays 15 March 2023		ScotWays records The enclosed map shows that rights of way LM173 and BE1 as recorded in the National Catalogue of Rights of Way (CROW) cross or are close to the application site as shown on Figure 2.1 Site Location. The enclosed map shows that our book Scottish Hill Tracks describes a route number 39 Leadburn to Heriot [HT43] which crosses or is close to the application site as shown on Figure 2.1 Site Location.	It should be noted that a Public Right of Way (PRoW) / Hill Track is located within the site boundary, approximately 250m to the south-west of the closest turbine (T1) and as such it can be reasonably expected that there would be no interaction between construction vehicles and path users. However, as a worst case assessment, these paths are considered as part of the assessment.

11.4 Methodology

Scope of Assessment

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

- Direct effects during construction on traffic and transport:
- Traffic flows in the surrounding area;
- Local road users; and
- Local residents.

11.4.2 The assessment scenarios used for this topic will be:

- Future Baseline Flows (2027) – which are estimated by applying National Road Traffic Forecast (NRTF) low growth factors to traffic flow information obtained from Automatic Traffic Counts (ATCs) and from the DfT and Transport Scotland databases; and
- Future Baseline + Development Flows (2027) – which are estimated by applying the distributed development trips to the future baseline traffic flow information.

Effects Scoped Out

11.4.3 On the basis of the desk based and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from consultees, the following topic areas have been 'scoped out' of detailed assessment, as proposed in the Scoping Report:

- Operational Phase: The traffic effects during the operational phase of the Proposed Development are likely to be insignificant as expected traffic flows will be less than two vehicle movements per week, far below the recognised thresholds for triggering a formal transport assessment. As such, the effects during the operation phase are scoped out of the assessment.
- Decommissioning Phase: The traffic effects during the decommissioning phase can only be fully assessed closer to that period. As elements of the Proposed Development are likely to remain in-situ (such as cable trenches, access tracks, etc), 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, no further assessment of the decommissioning phase has been considered at this point in time and has been scoped out of the assessment.

Baseline Characterisation

Study Area

11.4.4 The study area centred around data collection count sites, likely points of origin for materials to assist in developing a suitable study area.

11.4.5 Strategic access to the B7007 is available from the A68 (T) trunk to the east via the A7, B6367 and B6458. Access for construction materials would be predominantly from the north via the A7.

11.4.6 Abnormal loads associated with the wind turbines will be delivered to site from the proposed Port of Entry (PoE) at Rosyth. The proposed route will include Keith Road, B981, M90, M9, M8, A720, A68 (T), B6450, B6367, A7 and B7007.

11.4.7 The study area for this assessment is therefore as follows:

- B7007, between the B7007 / A7 priority junction and the B7007 / B709 priority junction;
- B6367, between A7 / B6367 priority junction and B6367 / B6458 priority junction;
- B6458, between B6367 / B6458 priority junction and B6458 / A68 (T) priority junction;
- A68 (T), between Pathhead and A68 (T) / B6458 priority junction;
- A68 (T), between A68 (T) / B6458 priority junction and A68 (T) / B6457 priority junction which leads to Fala Village;
- A7 between the A7 / B7007 priority junction and Gorebridge; and
- A7 between the A7 / B7007 priority junction and Halltree.

11.4.8 The study area network is illustrated in **Figure 11.1**.

Desk Study / Field Survey

11.4.9 The desk study included reviews and identification of the following:

- relevant transport planning policy;
- personal injury accident data;
- sensitive locations;
- any other traffic sensitive receptors in the area (core paths, routes, communities, etc.);
- Ordnance Survey (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 AILs through a route survey including swept path assessments.

11.4.10 Field surveys were also undertaken which comprised of a site visit to review the access routes and local road network. In addition, traffic

surveys were undertaken in August 2023 for a one week period at two locations within the study area.

Sensitivity Criteria

11.4.11 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. 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, that 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 judgement and the experience of trained assessors.

11.4.12 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.

11.4.13 The IEMA Guidelines includes guidance on how the sensitivity of receptors should be assessed. Using that as a base, professional judgement was used to develop a classification of sensitivity for users based on the characteristics of roads and locations. This is summarised in **Table 11.2.**

Table 11.2 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	Where a location is a large rural	Where a location is an	Where a location is a small rural	Where a location includes individual

Receptor	Sensitivity			
	High	Medium	Low	Negligible
of Locations	settlement containing a high number of community and public services and facilities.	intermediate sized rural settlement, containing some community or public facilities and services.	settlement, few community or public facilities or services.	dwellings or scattered settlements with no facilities.

11.4.14 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 Effect

11.4.15 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.

11.4.16 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 11.7 Mitigation**.

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

Significance Criteria

11.4.18 To determine the overall significance of effects, the results from the receptor sensitivity and magnitude of change assessments are correlated and classified using a scale set out in DMRB LA 104 Environmental Assessment and Monitoring (Revision 1) and summarised in **Table 11.3**.

Table 11.3 Significance of Effects

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

11.4.19 In terms of the EIA Regulations, effects would be considered of significance where they are assessed to be Major or Major/Moderate. Where an effect could be one of Major/Moderate or Moderate/Minor, professional judgement would be used to determine which option should be applicable.

Assessment Limitations

11.4.20 The assessment is based upon average traffic flows in one-month periods. During the month, activities at the Proposed Development may fluctuate between one day and another and it is not possible to fully develop a day-by-day traffic flow estimate as no 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).

11.5 Baseline

Current Baseline

Pedestrian and Cyclist Networks

11.5.1 A review of the Midlothian Core Paths indicates that there are no Core Paths within the site boundary. The nearest Core Path is Core Path 8-59 which is located to the east of the site and links to the unclassified road which leads to Middleton, to the north.

11.5.2 Information provided by ScotWays during scoping indicates that Public Right of Way (PRoW) LM/LM173/1 and Scottish Hill Track LM/HT43/5 are located within the south-western section of the site.

11.5.3 There is a combination of paths / footways located along the eastern side of the A7 between Gorebridge and approximately 600 m to the south-east of the A7 / B7007 junction.

11.5.4 A combination of paths / footways are located along the northern / eastern side of the A68 (T) between the access to Whitburgh Mains Farmhouse and the access to Fala Village while between the access to Whitburgh Mains Farmhouse and Pathhead village, the footway is located on the western side of the A68 (T). The condition of the paths / footways vary in width and condition along the route. Within Pathhead footways are located on both sides of the carriageway.

11.5.5 The level of pedestrian infrastructure is commensurate with the scale of the local settlements and their rural setting.

11.5.6 A review of Sustrans cycle network plan of the United Kingdom revealed that the National Cycle Route 1 (NCR1) is located to the north-east of the site. A section of the cycle route is located within the site boundary along the B7007, which is designated as “On-road route not on the National Cycle Network”.

Study Area Road Network

B7007

11.5.7 The B7007 comprises a single carriageway road, approximately 5.8 m in width, which is subject to the national speed limit (60 miles per hour (mph)). The B7007 is maintained by Midlothian Council and Scottish Borders Council. There is evidence of deterioration and minor repairs on the road. Within the vicinity of the site, the B7007 mainly provides access to land used for agricultural purposes.

B6367

11.5.8 The B6367 comprises a single carriageway road, approximately 5.8 m in width, which is subject to the national speed limit. The B6367 is

maintained by Midlothian Council. There appears to be some areas of deterioration along the road, within the study area. The B6367 mainly provides access to land used for agricultural purposes.

B6458

11.5.9 The B6458 comprises a single carriageway road, approximately 5.8 m in width, which is subject to the national speed limit. The B6458 is maintained by Midlothian Council. There appears to be some areas of deterioration along the road. The B6458 mainly provides access to land used for agricultural purposes.

A7

11.5.10 Within the study area, the A7 is a single carriageway road which varies in width and is mainly subject to the national speed limit. The speed limit is reduced and signposted when travelling through more built-up areas such as Gorebridge.

11.5.11 The A7 runs between Edinburgh, Scotland and Carlisle, England. In Scotland, to the south of Melrose, the A7 forms part of the trunk road network and is maintained by Transport Scotland while within the study area the A7 forms part of the local road network and is maintained by Midlothian Council and Scottish Borders Council. The A7 appears in mainly good condition, however, there are some locations where there are signs of deterioration.

A68 (T)

11.5.12 Within the study area, the A68 (T) is a single carriageway road which is mainly subject to the national speed limit. The speed limit is reduced and signposted when travelling through more built-up areas such as Pathhead.

11.5.13 The A68 (T) runs between Edinburgh, Scotland and Darlington, England. Within Scotland, the A68 (T) is managed by BEAR on behalf of Transport Scotland. Within the study area the A68 (T) appears in mainly good condition, however there are some locations where there are signs of deterioration.

General Road Suitability for HGV Traffic

11.5.14 A number of the roads within the study area form part of the agreed route network used for the extraction of timber and are therefore regularly used by HGV traffic. This includes sections of the B7007, the A7 and the A68 (T).

11.5.15 The Agreed Timber Route Map 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'.

11.5.16 '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.

Existing Traffic Conditions

11.5.17 In order to assess the impact of development traffic on the study area, a series of ATC sites were established over a seven-day period in August 2023. To complement the ATC surveys, existing traffic count data was obtained from the DfT database.

11.5.18 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 2023 flows. The low growth factor for 2019 to 2023 is 1.027.

11.5.19 The counts sites used were as follows:

- 1: B7007, near site access (ATC Survey);
- 2: B6458, Tynehead (ATC Survey);
- 3: A7, south of Gorebridge (Count site reference: 80139);
- 4: A7, at A7 / B7007 junction1 (Count site reference: 20714);
- 5: A7, southeast of Falahill (Count site reference: 50713);
- 6: A68 (T), south of Pathhead (Count site reference: 30734); and
- 7: A68 (T), west of Fala Village (Transport Scotland Count site reference: ATCSE013).

11.5.20 The location of the traffic surveys is presented in **Figure 11.2.**

11.5.21 The traffic counters allowed the traffic flows to be split into vehicle classes and the data has been summarised into cars / light good vehicles (LGVs) and HGVs (buses and all goods vehicles >3.5 tonnes gross maximum weight).

11.5.22 **Table 11.4** summarises the Annual Average Daily Traffic (AADT) traffic data estimated at the seven sites for 2023.

Table 11.4 Existing Traffic Flow (2023)

Site Ref	Survey Location	Cars & Lights	HGV	Total
1	B7007, near site access	433	86	518
2	B6458, Tynehead	637	217	854
3	A7, south of Gorebridge	6,394	553	6,947
4	A7, at the A7 / B7007 junction	4,911	315	5,226
5	A7, southeast of Falahill	5,374	325	5,699
6	A68 (T), south of Pathhead	9,194	937	10,130
7	A68 (T), west of Fala Village	7,068	1,602	8,670

Please note minor variances due to rounding may occur.

11.5.23 The ATC count sites which provided traffic volume data were also used to obtain speed statistics. Existing speed information was also available from the Transport Scotland database; however, no speed information was available from the DfT database. The two-way seven-day average and 85th percentile speeds observed at the ATC count sites are summarised in **Table 11.5.**

[1] *The location of Count Point 4 (DfT Count site reference: 20714) is located approximately 800 m to the east of the A7 / B7007 junction, however, for the purpose of this assessment it is assumed that the Count Point is located at the A7 / B7007 junction in order to capture all construction traffic along the A7.*

Table 11.5 Speed Summary (2023)

Site Ref	Survey Location	Daily Mean Speed (mph)	85th %ile Speed (mph)	Speed Limit (mph)
1	B7007, near site access	49.5	59.6	60.0
2	B6458, Tynehead	43.9	53.2	60.0
3	A7, south of Gorebridge	No data available		60.0
4	A7, east of A7 / B7007 junction			60.0
5	A7, southeast of Falahill			60.0
6	A68 (T), south of Pathhead			60.0
7	A68 (T), west of Fala Village	47.6	55.3	60.0

11.5.24 Speed information from the ATC surveys undertaken along the B7007 and B6458 and the existing speed data available for the A68 (T) suggests that there are no speeding issues at these locations.

Accident Review

11.5.25 Personal Injury Accident (PIA) data for the five-year period commencing 01 January 2017 through to the 31 December 2021 was obtained from the online resource CrashMap which uses data collected by the police about road traffic crashes occurring on British roads, where someone is injured.

11.5.26 Transport Assessment Guidance requires an analysis of the PIA on the road network in the vicinity of any development to be undertaken for at least the most recent 3-year period, or preferably a 5-year period, particularly if the Site has been identified as being within a high accident area.

11.5.27 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.

11.5.28 The locations of the accidents recorded along the B7007 and A7, within the study area are shown in **Figure 11.3**.

11.5.29 A summary analysis of the incidents indicates that:

- a total of 26 accidents were recorded within the study area roads within the five-year period;
- of those 26 accidents, 16 were classified as slight, nine were classified as serious and one fatality was recorded;
- the accident which was recorded as fatal occurred on a slight bend on the B7007, within the site boundary, and involved a car and an HGV;

- one accident involved a cyclist and a car. This incident was recorded at the B6372 / A7 junction and was classified as serious;
- two accidents involving pedestrians were recorded;
- One was recorded on the B6367, to the west of the railway bridge and involved a car. The incident was classified as slight; and
- One was recorded on Main Street (A86 (T)), near St Mary's Pathhead and involved an HGV. The incident was classified as slight.
- a total of four separate accidents involved motorcycles, all of which were classified as serious;
  - An incident was recorded as B7007 / A7 junction and also involved a car;
  - An incident was recorded A7 approximately 300m east of B7007 / A7 junction which appears to have involved two motorcycles;
  - An incident was recorded at the A7 / B6367 junction and also involved a car and an HGV; and
  - An incident was recorded at a bend, along the A68 (T) approximately 550 m west of the A68 (T) / B6457 and was a single vehicle collision.
- a total of eight separate accidents involved HGVs, one of which is outlined in the above point. One was recorded on the B7007, three occurred on the A7 and four occurred along the A68.

11.5.30 In general, there are no specific locations within the study area where there are high numbers of accidents involving HGVs that have been recorded.

11.5.31 Of the eight that were recorded however, the majority occurred on the A7 and A68 (T). These roads have a higher proportion of HGV traffic using them, with 8% and 9% respectively, while the national average based on DfT data is 6%.

11.5.32 A single fatality was recorded along the B7007, within the site boundary which involved a car and an HGV. Appropriate Traffic Signs Manual Chapter 8 compliant temporary road signage will be provided along the B7007 to alert traffic of the site entrance and the presence of construction vehicles along the road.

11.5.33 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.

Future Baseline

11.5.34 Construction of the Proposed Development is expected to commence in 2027 if consent is granted and it is expected to take up to 24 months, depending on weather conditions and ecological considerations.

11.5.35 To assess the likely effects during the construction phase, 2027 baseline traffic flows were determined by applying a NRTF low growth to the 2023 traffic flows presented in **Table 11.4**. The NRTF low growth factor for 2023 to 2027 is 1.021.

The 2027 Future Baseline Traffic Flows are presented in **Table 11.6.**

Table 11.6 Existing Traffic Flow (2027)

Site Ref	Survey Location	Cars & Lights	HGV	Total
1	B7007, near site access	442	88	529
2	B6458, Tynehead	650	222	872
3	A7, south of Gorebridge	6,528	564	7,093
4	A7, at the A7 / B7007 junction	5,014	322	5,336
5	A7, southeast of Falahill	5,487	331	5,818
6	A68 (T), south of Pathhead	9,387	956	10,343
7	A68 (T), west of Fala Village	7,216	1,636	8,852

Please note minor variances due to rounding may occur.

11.5.36 In the scenario that the Proposed Development did not proceed, traffic growth will still occur and the links within the study area will experience increased traffic flows resulting from other development pressures, tourism traffic and population flows.

11.5.37 A review of sensitive receptors has been undertaken within the study area. **Table 11.7** 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 11.2**.

Table 11.7 Receptor Sensitivity Summary

Receptor	Sensitivity	Justification
B7007 Users	Medium	Where the road is a local A or B class road, capable of regular use by HGV traffic.
B6458 and B6367 Users	Medium	Where the road is a local A or B class road, capable of regular use by HGV traffic.
A7 Road Users	Low	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.
A68 (T) Users	Low	Where the road is Trunk or A-class, constructed

Receptor	Sensitivity	Justification
		to accommodate significant HGV composition.
Gorebridge Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Pathhead Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
PRoW / Track Users	High	Minor paths used by walkers and cyclists, not constructed to accommodate HGV traffic flows.

11.5.38 Based on the indicators set out within the IEMA Guidelines, the users/residents of Gorebridge and Pathhead, and the PRoW / Track Users within site are identified as sensitive receptors in this assessment. These locations will therefore be 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.

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

11.6 Assessment of Potential Effects

Construction Effects

11.6.1 The assessment is based upon the construction effects that may occur within the study area. In order to assess the effects, it is necessary to determine the likely traffic generation associated with the Proposed Development.

11.6.2 During the assumed 24-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 such as concrete raw materials;
- AILs consisting of the wind turbine components and high-capacity crane(s); and
- escort vehicles for AIL deliveries.

11.6.3 Except for the wind 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 Proposed Development on low loaders.

11.6.4 The wind turbines are delivered in component sections for transport and would be assembled at the Proposed Development. The nacelle, hub, drive train, blade, tower sections are classified as AIL due to their weight and/or length, width and height when loaded.

11.6.5 The components can be delivered on a variety of transport platforms with typical examples illustrated in the **Technical Appendix 11.1: Annex A AIL RSR**.

11.6.6 In addition to the wind turbine deliveries, two high-capacity erection cranes would be needed to offload some components and erect the wind turbines. The main crane is likely to be a mobile crane 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 assist crane will also be present to allow the assembly of the main crane and to ease overall erection of the wind turbines.

11.6.7 The resulting traffic generation profile is attached in **Technical Appendix 11.1: Transport Assessment** for review. The peak of construction occurs in Month 9 with 57 HGV movements per day (29 inbound and 28 outbound) and 70 Car / LGV movements (35 inbound trips and 35 outbound trips). These figures on average indicate approximately six HGVs arriving and departing the site every hour during a typical work day, during the peak period of construction activity.

11.6.8 The distribution of Proposed 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 would be as follows:

- all construction traffic, including AIL delivery vehicles, will enter and exit the site via the newly provided access junction on the B7007;
- AILs associated with the wind turbines will be delivered to site from the proposed Port of Entry (PoE) at Rosyth. The proposed route will include Keith Road, B981, M90, M9, M8, A720, A68 (T), B6450, B6367, A7 and B7007;
- deliveries associated with concrete materials, such as, cement powder and water will be sourced from local concrete suppliers and delivered via the A7 from the north;
- aggregate materials requirements for on-site works will be sourced from a combination of on-site borrow pits and local quarries. For the purpose of this assessment, it is assumed that 50% of aggregate materials requirements will be sourced from a quarry at North

Middleton and will be delivered to site via the A7 and B7007. The applicant will confirm final quarry and material sourcing with Midlothian Council within the CTMP;

- HGV deliveries associated with the High Voltage (HV) electrical installation, control buildings, batteries, etc will arrive via the A7 to the north;
- staff working at the site are likely to be based locally. It is assumed that 80% will be based to the north of the site and 20% to the south, and will access the site via the A7; and
- general site deliveries are assumed to arrive from the north via the A7 to the site. These are generally smaller rigid HGV vehicles.

11.6.9 The routes which will be used by construction delivery traffic within the study area as well as AIL routes are illustrated in **Figure 11.4**.

11.6.10 Details of the mitigation measures which are required to facilitate the AIL deliveries are presented in the RSR as part of **Technical Appendix 11.1: Annex A**.

11.6.11 To estimate the total trips through the study area during the peak of the construction phase, traffic was distributed through the network and combined with the 2027 Future Baseline traffic data. The resulting figures were compared with the weekday 2027 Baseline traffic (**Table 11.6**) to provide a percentage change in movements which is shown in **Table 11.8**.

Table 11.8 2027 Baseline + Construction Development – Flows and Impact

Site Ref	Survey Location	Cars & Lights	HGV	Total	% Increase Car & Lights	% Increase HGV	% Increase Total
1	B7007, near Site Access	512	145	656	15.88%	65.10%	24.08%
2	B6458, Tynehead	650	222	872	0.00%	0.00%	0.00%
3	A7, south of Gorebridge	6,585	572	7,157	0.86%	1.44%	0.91%
4	A7, at A7 / B7007 junction	5,084	379	5,464	1.40%	17.76%	2.39%
5	A7, southeast of Falahill	5,501	331	5,833	0.26%	0.00%	0.24%
6	A68 (T), south of Pathhead	9,387	956	10,343	0.00%	0.00%	0.00%
7	A68 (T), west of Fala Village	7,216	1,636	8,852	0.00%	0.00%	0.00%

Please note minor variances due to rounding may occur.

11.6.12 The total traffic movements are not predicted to increase by more than 24.1% on all of the study area.

11.6.13 **Table 11.8** shows that HGV traffic movements will increase by 65.1% on the B7007, near the site access. Whilst this increase could be considered high, it is generally caused by relatively low HGV flows on this link which will see an increase of 57 daily HGV movements. This represents approximately six HGV movements per hour on the B7007 during construction activities, which is not considered significant in terms of overall traffic flows.

11.6.14 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.

11.6.15 A review of the existing road capacity has been undertaken using the Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESA Manual". 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 11.9.**

Table 11.9 2029 Future Baseline + Construction Development - Capacity Summary

Site Ref.	Survey Location	2029 Baseline Flow	2029 Base + Development Flows	Theoretical Road Capacity	% Spare Capacity
1	B7007, near site access	529	656	19,200	97%
2	B6458, Tynehead	872	872	19,200	95%
3	A7, south of Gorebridge	7,093	7,157	21600	67%
4	A7, at A7 / B7007 junction	5,336	5,464	21,600	75%
5	A7, southeast of Falahill	5,818	5,833	28,800	80%
6	A68 (T), south of Pathhead	10,343	10,343	28,800	64%
7	A68 (T), west of Fala Village	8,852	8,852	21,600	59%

Please note minor variances due to rounding may occur.

11.6.16 The results indicate there are no road capacity issues with the addition of the construction traffic associated with the construction of the Proposed Development and that ample spare capacity exists within the local road network to accommodate construction phase traffic.

11.6.17 In accordance with the IEMA Guidelines Rules 1 and 2, a detailed assessment has been undertaken on B7007 Users. Although it is not expected that there would be interaction between construction vehicles and path users, a PRoW / Track is located within the site boundary and as such a detailed assessment has been undertaken as a worst case assessment.

11.6.18 The significance of the potential effects has been determined using the rules and thresholds discussed previously. **Table 11.10** summarises the significance on the receptors for the construction phase.

Table 11.10: Overall Construction Phase Effects

Receptors	Severance	Driver Delay	Pedestrian Delay	Non-motorised user Amenity	Fear & Intimidation	Road Safety	Large Loads
B7007 Users	Moderate	Moderate / Minor	Moderate / Minor	Moderate	Moderate	Moderate	Moderate / Minor
PRoW / Track Users	Major	Negligible	Moderate	Major	Major	Moderate	N/A

11.6.19 The assessment of significance suggests that B7007 Users and PRoW / Track Users would experience significant effects, prior to the application of mitigation measures.

11.6.20 It should be noted that the impacts relate solely to the peak of construction activities and that the construction period is short lived and the effects are transitory in nature.

Operational Effects

11.6.21 No potential significant operational effects are predicted as part of the Proposed Development and this topic has been scoped out of the assessment.

Decommissioning Effects

11.6.22 No potential significant decommissioning effects are predicted as part of the Proposed Development and this topic has been scoped out of this assessment.

11.7 Mitigation

11.7.1 During the construction phase HGV traffic levels are expected to increase by 65.1% on sections of the B7007. Although it is not expected that there

would be significant interaction between construction vehicles and path users due to the proximity of the PRoW / Track network to the nearest turbine, as a worst case assessment, PRoW / Track Users are assumed to experience significant effects. The following mitigation measures are proposed to mitigate the effects of the increase in construction traffic and reduce the significance of effect.

General Construction Traffic

11.7.2 During the construction period, a website, blog or Twitter feed for the Proposed Development would be regularly updated to provide the latest information relating to traffic movements associated with vehicles accessing the site. This would be agreed with Midlothian Council.

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

- where possible the detailed design process would minimise the volume of material to be imported to the Proposed Development to help reduce HGV numbers;
- an on-site worker transport and travel arrangement plan, including transport modes to and from the site (including pick up and drop off times);
- a Traffic Management Plan (TMP) would be prepared for AIL traffic movement only;
- all material 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 entrances, depending on the views of Midlothian Council;
- unless otherwise agreed with the roads authorities, normal site working hours would be limited to between 0700 and 1900 (Monday to Friday) and 0700 and 1300 on Saturday though component delivery and turbine erection may take place outside these hours;
- appropriate traffic management measures would be put in place on the B7007 to avoid conflict with general traffic, subject to the agreement of Midlothian Council. Typical measures would include HGV turning and crossing signs and banksman where necessary;

- provide construction updates on the project website and or a newsletter to be distributed to residents within an agreed distance of the site; and
- adoption of a voluntary speed limit of 20 mph for all construction vehicles through the Gorebridge and Pathhead, and any other specific locations requested by Midlothian Council.

11.7.4 A CTMP will be prepared prior to works commencing and will confirm all of the measures proposed for the site. Should any assumptions in material supply vary as a result of the commercial tendering process, the CTMP will address these, as per standard practice. The need for the CTMP will likely be required by planning condition and the applicant would welcome draft text on a suggested condition from Midlothian Council.

11.7.5 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 construction traffic at sensitive locations through the villages); and
- identification of the required access routes and the controls to ensure no departure from these routes.

11.7.6 Midlothian Council and Scottish Borders Council may request that an agreement to cover the cost of abnormal wear on its public 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 roads prior to any construction work commencing. This baseline would inform any change in the road condition during the construction phase. Any necessary repairs would be coordinated with Midlothian Council and Scottish Borders Council.

11.7.7 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. 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. 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.

11.7.8 Before the AILs traverse the route, the following tasks would be undertaken to ensure load and road user safety:

- ensure any vegetation, which could 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.

Abnormal Indivisible Loads

AIL Route Survey Report

11.7.9 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 11.1**.

11.7.10 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, walls / fences / barriers and utility poles / junction boxes. It is also proposed to introduce traffic management measures such as contraflow manoeuvres and suspension of parking as well as vegetation trimming, the provision of load bearing surfaces and the provision of a newly provided access junction. These works are to be agreed with Midlothian Council and other relevant stakeholders.

11.7.11 AIL mitigation works can be designed to be temporary in nature to enable the restoration to their original condition (if required by Midlothian Council).

Transport Management Plan (TMP)

11.7.12 A TMP would be developed for AIL movements. All abnormal load deliveries would be undertaken at appropriate times (to be discussed and agreed with the relevant roads authorities and police) with the aim of minimising the effects on the local and trunk road network. It is likely that the abnormal load convoys would travel in to avoid school drop off and pick up times.

11.7.13 The majority of the potential conflicts between construction traffic and other road users would occur with abnormal load 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.

11.7.14 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 B6458, B6367 and B7007;
- 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 a road junctions, requiring other traffic to be restrained on other approach arms; and
- in locations where high speeds of general traffic are predicted.

11.7.15 Advance warning signs would be installed on the approaches to the affected road network. 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).

11.7.16 The location and numbers of signs would be agreed post consent and would form part of the wider CTMP for the project.

11.7.17 The TMP 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;
- 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 committee 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 a Path Management Plan (PMP)

11.7.18 Within the site, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the paths.

11.7.19 Users of the PRoWs / Tracks would be separated from construction traffic through the use of barriers and other features to be approved in discussion with Midlothian Council. Crossing points would be provided where required, with path users having right of way. Appropriate Traffic Signs Manual Chapter 8 compliant temporary road signage would be provided to assist at these crossing for the benefit of all users.

11.7.20 The Principal Contractor would ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important within close proximity to the core paths and at crossing points. Advisory speed limit signage would also be installed on approaches to areas where path users may interact with construction traffic.

11.7.21 Signage would be installed on the exit that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This would also be emphasised in the weekly toolbox talks.

11.7.22 While the British Horse Society has not provided advice in relation to scoping, recommendations which it generally provides on the interactions between HGV traffic and horses include that:

- Horses are normally nervous of large vehicles, particularly when they do not often meet them. Horses are flight animals and could run away in panic if really frightened.
- Riders would do all they can to prevent this but, should it happen, it could cause a serious accident for the horse and rider, as well as for other road users.

11.7.23 The main factors causing fear in horses in this situation are:

- something approaching them, which is unfamiliar and intimidating;
- a large moving object, especially if it is noisy;
- lack of space between the horse and the vehicle;
- the sound of air brakes; and
- anxiety on the part of the rider.

11.7.24 The British Horse Society recommends the following actions that would be included in the training for all HGV staff:

- on seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible;
- if the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so);
- the vehicle should not move off until the riders are well clear of the back of the HGV;
- if drivers are wishing to overtake riders, please approach slowly or even stop in order to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them; and
- all drivers delivering to the Proposed Development must be patient. Riders would be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.

A Staff Travel Plan

11.7.25 A Staff Travel Plan would 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;
- provision of public transport information;
- mini-bus service for transport of on-site staff;
- promotion of a car sharing scheme; and
- car parking management.

Mitigation during Operation

11.7.26 In terms of the IEMA Guidelines, such a small number of traffic movements and the associated percentage uplift over Baseline traffic movements are not considered significant.

Mitigation during Decommissioning

11.7.27 As decommissioning would result in fewer vehicle trips on the road network than the construction phase, the significance of any effects would not be greater. It can therefore be assumed that the assessment of the construction phase covers the worst-case scenario.

11.8 Assessment of Residual Effects

11.8.1 An evaluation of the potential effects of the increase in traffic on the roads, within the study area, used for construction traffic was undertaken. The summary of this assessment is provided in **Table 11.10**.

11.8.2 The assessment confirms the effects would be minor in nature and they would be not significant. The traffic effects are transitory in nature. No long-lasting detrimental transport or access issues are associated with the construction phase of the Proposed Development.

11.9 Assessment of Cumulative Effects

11.9.1 A review of the consented developments, including onshore wind farm developments, to be included as cumulative developments in the traffic and transport assessment are discussed in **Technical Appendix 11.1**.

11.9.2 The inclusion of additional vehicular flows to the baseline such as committed development trips, will dilute the potential impact that Proposed Development will have on the local road network.

11.9.3 As such, the approach taken not to include these flows in the future baseline is considered to be an overly robust assessment for the short duration of the construction works. The use of low NRTF is considered robust for addressing non-significant traffic generation by smaller developments in the area.

11.9.4 As noted in **Technical Appendix 11.1**, there are no consented wind farm developments which are expected to impact on the Proposed Development's study area, however, there are a number of wind farm proposals in the planning system which are at application stage. As these have not received planning consent, they are not considered as cumulative developments in terms of the traffic and transport assessment.

11.9.5 Should any of the proposals (non-wind farm developments and wind farm developments) be constructed at the same time as the Proposed Development, the effects would be mitigated through the use of an overarching Traffic Management Plan (oTMP) for all of the sites and by introducing a phased delivery plan which would be agreed with the local roads departments and Police Scotland.

11.9.6 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;
- all abnormal load deliveries cannot occur at four 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; and

- it is also unlikely that all of the non-wind farm developments outlined in **Technical Appendix 11.1** will be fully built and occupied / operational before the construction of the Proposed Development.

11.10 Summary

11.10.1 The Proposed Development would lead to a temporary increase in traffic volumes on the study area during the construction phase. Traffic volumes would fall considerably outside the peak period of construction.

11.10.2 The maximum traffic impact associated with construction is predicted to occur in Month 9 of the indicative construction programme.

11.10.3 The traffic associated with the Proposed Development, at the peak of construction, would result in 57 HGV movements per day (29 inbound and 28 outbound) and 70 Cars & Lights (35 inbound and 35 outbound).

11.10.4 The greatest potential impact would occur along the B7007. There is a section of the PRoW / Track network which runs through the site boundary, and while it is not expected that there will be significant interaction between the construction vehicles and PRoW / Track Users due to the proximity of the nearest turbine, the effects of the construction phase have been assessed as a worst case assessment.

11.10.5 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 slight or insignificant but as they will occur during the construction phase only, they are temporary and reversible.

Table 11.11 Summary of Residual Effects

Likely Significant Effect	Mitigation	Means of Implementation	Residual Effect
Construction Phase			
Severance	CTMP proposals	Via a condition of consent. CTMP to be agreed with Midlothian Council prior to construction activities commencing.	Not significant
Driver delay	CTMP Proposals and improved signage	Via a condition of consent. CTMP to be agreed with Midlothian Council prior to construction activities commencing.	Not significant
Pedestrian delay	CTMP and PMP proposals	Via a conditions of consent. CTMP and PMP to be agreed with Midlothian Council prior to construction activities commencing.	Not significant

Likely Significant Effect	Mitigation	Means of Implementation	Residual Effect
Non-motorised user amenity	CTMP and PMP proposals	Via a condition of consent. CTMP to be agreed with Midlothian Council prior to construction activities commencing.	Not significant
Fear and intimidation	CTMP and PMP proposals	Via a condition of consent. CTMP to be agreed with Midlothian Council prior to construction activities commencing.	Not significant
Road Safety	CTMP and PMP proposals	Via a condition of consent. CTMP to be agreed with Midlothian Council prior to construction activities commencing. Access junction designed in accordance with Midlothian Council design guidelines.	Not significant
Large Loads	CTMP and AIL TMP proposals	Via a condition of consent. CTMP to be agreed with Midlothian Council prior to construction activities commencing. AIL suppliers will prepare a TMP to manage the deliveries of turbine components from the POE to the site.	Not significant
Operational Phase			
None	None	None	None
Decommissioning Phase			
None	None	None	None

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