

10 Traffic & Transport

10.1 Introduction

10.1.1 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; and
- assess the residual effects remaining following the implementation of mitigation measures.

10.1.2 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 25 years 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 six years of experience in the transport planning industry.

10.1.3 A high-level overview of the effects of the traffic movements has been considered in accordance with Institute of Environmental Assessment (now Institute of Environmental Management and Assessment (IEMA)) Guidelines for the Environmental Assessment of Road Traffic. The document is referred to as the IEMA Guidelines in this chapter.

10.1.4 The chapter is supported by:

- Technical Appendix 10.1: Transport Assessment; and
- Technical Appendix 10.2: Route Survey Report

10.1.5 Figures 10.1 - 10.4 are referenced in the text where relevant.

10.2 Legislation, Policy and Guidance

Legislation

10.2.1 The assessment has been undertaken in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

Policy

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

- Dumfries and Galloway Council Local Development Plan - The Local Development Plan 2.

Guidance

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

- Institute of Environmental Assessment, Guidelines for the Environmental Assessment of Road Traffic (1993);
- Institution of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Impact Assessment' (2005);
- Manual for Roads and Bridges (DMRB), LA 104 Environmental Assessment and Monitoring (Revision 1) (2020);
- Planning Advice Note (PAN) 75;
- Transport Assessment Guidance, (2012);
- Onshore Wind Turbines; Online Renewables Planning Advice (2014); and
- Dumfries and Galloway Council LDP Supplementary Guidance Part 1 Wind Energy Development: Development Management Considerations (2017).

10.3 Consultation

10.3.1 In undertaking the assessment, consideration has been given to the scoping responses and other consultation undertaken as detailed in Table 10.1.

Table 10.1: Consultation Responses

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
Dumfries and Galloway Council	Scoping	No received responses.	None required.
Transport Scotland - Roads Directorate, Term Consultants 05/05/2022	Scoping	We note that the site will be accessed via the B7078 which is part of the local road network. As such, Transport Scotland has no comment to make on the access point itself.	Since the Scoping Report, access to the site has been reconsidered and the proposed access route is now the C70A, Old Irvine - Kerr track, U251A, Auchenrivock Road and the A7(T). Further details are provided in Technical Appendix 10.1 Transport Assessment.
		Proposed Methodology - This approach is considered acceptable, and we are content that no further assessment is required if the above thresholds are not exceeded.	Noted.
		Transport Scotland will require to be satisfied that the traffic generated by the construction of the wind farm will not have any significant environmental issues on the trunk road network, therefore, we would ask that the A7(T) be included within the screening exercise to determine the requirement for any further assessment of impacts on the trunk road network and its adjacent receptors. Baseline traffic data for the A7(T) both north and south of Langholm is available on request direct from Transport Scotland.	The assessment includes locations along the A7(T), including to the north and south of Langholm. Traffic data for the assessment was sourced from both the Transport Scotland (TS) and Department for Transport (DfT) databases. Further details are provided in Technical Appendix 10.1 Transport Assessment.
		We note that National Road Traffic Forecasts (NRTF) Low Growth factors will be applied to baseline count data to determine future year traffic flows. Transport Scotland considers this acceptable in this instance.	Noted.
		It is noted that any impacts associated with the	Noted.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
		operational and decommissioning phases of the development are to be scoped out of the EIAR. We would consider this to be acceptable in this instance.	
		The SR indicates that Abnormal Indivisible Loads (AIL) for turbine component deliveries will be taken either from the minor road network leading from the B6357 and the A74(M) via Junction 21 or from a private track off the A7(T) and M6 via Junction 45. A detailed Route Survey Report will support the application and will identify the necessary access improvements that will be required to enable loads to access the site. Transport Scotland is satisfied with this approach but would state that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the appropriate Area Managers. Any proposals for direct access from the trunk road network should be supported by 1:500 scale plans and a Stage 1 Road Safety Audit if a new or modified junction is proposed.	The proposed route to the site for AIL movements has changed since the Scoping Report (SR). It is now proposed that loads will access the site from upgraded tracks via the C70A, Old Irvine - Kerr track, U251A, Auchenrivock Road, the A7(T) and the A74(M). AIL access will be via will access Auchenrivock Road through an existing priority junction with the A7(T), to the south of Auchenrivock. As the A7(T) / Auchenrivock is an existing, operational junction, it is not proposed that a Stage 1 Road Safety Audit is required.
British Horse Society 03/05/2022	Scoping	The BHS expects developers to work with representatives of the local horse riding community to understand their road safety and countryside access concerns and facilitate engagement with other partners and consider whether any road safety interventions should be introduced, where there are significant numbers of horse riders and/or road traffic collisions involving horses.	The Path Management Plan (provided in the Mitigation section of this Chapter) outlines measures to address potential interactions between HGV traffic and horses.
ScotWays	10/05/2022	Caseload High, not responding at present.	None required.

10.4 Methodology

Scope of Assessment

10.4.1 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.
- Cumulative effects during construction on traffic and transport.

10.4.2 The assessment scenarios used for this topic will be:

- Future Baseline Flows (2026) - which are estimated by applying National Road Traffic Forecast (NRTF) low growth factors to traffic flow information obtained from the Department for Transport (DfT) database and including committed development flows;
- Future Baseline + Development Flows (2026) - which are estimated by applying the distributed development trips to the future baseline traffic flow information; and
- Combined Scheme Sensitivity Review - a sensitivity review of the cumulative effects of local consented wind farm schemes.

Effects Scoped Out

10.4.3 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

10.4.4 It is proposed that there will be two site entrances off the C70A which will serve the proposed development.

10.4.5 The study area for this assessment is as follows:

- The C70A, Old Irvine - Kerr track and U251A and providing access from Auchenrivock Road to the site access ;
- Auchenrivock Road between the A7(T) / Auchenrivock Road priority junction (south) and the Auchenrivock Road / U251A priority junction;
- A7(T) between the north of Langholm and Longtown;
- A6071 between Longtown and Gretna; and
- A74(M) between Gretna and Kirtlebridge.

10.4.6 This study area includes areas of material supply (quarries, etc), the site entrances, the trunk road network and the construction material and abnormal load delivery routes. It is also of sufficient size to include the main areas of workforce accommodation during the construction period.

10.4.7 The study area is illustrated in Figure 10.1.

Desk Study / Field Survey

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

- Relevant transport planning policy;
- 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 road 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.

10.4.9 Field surveys were also undertaken and comprised of a site visit to review the access routes and local road network.

Sensitivity Criteria

10.4.10 The Institution of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Impact Assessment' (2005) notes that the separate 'Guidelines for the Environmental Assessment of Road Traffic' (1993) document 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.

10.4.11 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.

10.4.12 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 10.2.

Table 10.2: 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.

10.4.13 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

10.4.14 The following rules, also taken from the IEMA Guidelines are used to determine which links within the study area should be considered for detailed assessment:

- Rule 1 - include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2 - include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

10.4.15 Examples of sensitive areas are presented in the IEMA Guidelines as hospitals, churches, schools, historical buildings, links with high pedestrian flow etc.

10.4.16 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 in the following bullet points:

- Severance - the IEMA Guidance states that, "severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery." Further, "Changes in traffic of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' [or minor, moderate and major] changes in severance respectively". However, the Guidelines acknowledge that "the measurement and prediction of severance is extremely difficult".
- Driver delay - the IEMA Guidelines note that these delays are only likely to be "significant [or major] when the traffic on the public road network surrounding the development is already at, or close to, the capacity of the system.";
- Pedestrian delay - the delay to pedestrians, as with driver delay, is likely only to be major when the traffic on the public road network surrounding the proposed development is already at, or close to, the capacity of the system. An increase in total traffic of approximately 30% can double the delay experienced by pedestrians attempting to cross the road and would be considered major;
- Pedestrian amenity - the IEMA Guidelines suggests that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or its lorry component) is halved or doubled. It is therefore considered that a change in the traffic flow of -50% or +100% would produce a major change in pedestrian amenity;

- 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 major changes respectively; and
- Accidents and safety - professional judgement would be used to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents.

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

Significance Criteria

10.4.18 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 10.3.

Table 10.3: Significance of Effects

		Magnitude of Change			
		High	Medium	Low	Negligible
Sensitivity	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

10.4.19 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

10.4.20 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).

10.4.21 The C70A, U251A and Auchenrivock Road provide access to a small number of dwellings and farmland and therefore can be reasonably assumed to be lightly trafficked. Traffic surveys were not undertaken along these roads, instead it is assumed that, given the light use of the road and the fact that these roads will provide access to the site entrance, receptors along these links will experience significant impacts and will be assessed in this manner further in the chapter.

10.4.22 While aggregate materials for off-site works, such as off-site access tracks and junctions, are not included in the assessment, it is proposed that mitigation measures in accordance with measures proposed for the on-site works will be introduced to address any construction effects (as presented in Section 10.7 Mitigation).

10.5 Baseline

Current Baseline

Existing Traffic Conditions

10.5.1 In order to assess the impact of proposed development traffic on the study area, existing 2019 traffic count data was obtained from the Transport Scotland (TS) and Department for Transport (DfT) website count sites. It should be noted that 2019 flows were extracted from the website count sites in order to obtain flows which were not affected by Covid 19 travel restrictions.

10.5.2 The count sites are as follows:

1. A7(T), south of A7(T) / Auchenrivock Road priority junction (south) (Traffic flows at this location assumed to be equal to flows at TS Count Site JTC08199);
2. A7(T), south of Canonbie (TS Count Site ATC09002);
3. A7(T), west of Crofthead (DfT Count Site 6179);
4. A6071, west of Gaitle (DfT Count Site 90274);
5. A74(M), northbound between Jct 21 and 22 (TS Count Site ATC6_37N);
6. A74(M), southbound between Jct 21 and 22 (TS Count Site ATC6_37S);
7. A7(T), north of A7(T) / Auchenrivock Road priority junction (south) (TS Count Site JTC08199); and
8. A7(T), north of Langholm (TS Count Site ATC09001).

10.5.3 The location of the traffic surveys is presented in Figure 10.2.

10.5.4 A National Road Traffic Forecast (NRTF) low growth factor was applied to the 2019 traffic flows to forecast 2022 flows. The NRTF low growth factor for 2019 to 2022 is 1.022.

10.5.5 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 heavy goods vehicles (HGVs) (buses and all goods vehicles >3.5 tonnes gross maximum weight).

10.5.6 Table 10.4 summarises the Annual Average Daily Traffic (AADT) traffic data estimated at the nine sites for 2022.

Table 10.4: Existing Traffic Flow (2022)

Site Ref	Survey Location	Cars & Lights	HGV	Total
1	A7(T), south of A7(T) / Auchenrivock Road priority junction (south)	3,073	614	3,687
2	A7(T), south of Canonbie	4,033	527	4,560
3	A7(T), west of Crofthead	3,524	360	3,884
4	A6071, west of Gaitle	2,993	693	3,686
5	A74(M), northbound between Jct 21 and 22	12,168	5,925	18,092
6	A74(M), southbound between Jct 21 and 22	12,035	5,813	17,848
7	A7(T), north of A7(T) / Auchenrivock Road priority junction (south)	3,073	614	3,687
8	A7(T), north of Langholm	1,869	379	2,248

Please note minor variances due to rounding may occur.

10.5.7 The two-way daily average and 85th percentile speeds recorded at the TS count sites for 2022¹ are summarised in Table 10.5.

Table 10.5: Speed Summary (2022)

Site Ref	Survey Location	Daily Mean Speed (mph)	85th %ile Speed (mph)	Speed Limit (mph)
1	A7(T), south of A7(T) / Auchenrivock Road priority junction (south)	61.6	71.3	60.0
2	A7(T), south of Canonbie	52.3	59.6	60.0
3	A7(T), west of Crofthead	No information available		60.0
4	A6071, west of Gaitle	No information available		60.0

¹ Available speed information until 17 September 2022.

Site Ref	Survey Location	Daily Mean Speed (mph)	85th %ile Speed (mph)	Speed Limit (mph)
5	A74(M), northbound between Jct 21 and 22	63.0	78.5	70.0
6	A74(M), southbound between Jct 21 and 22	68.5	78.7	70.0
7	A7(T), north of A7(T) / Auchenrivock Road priority junction (south)	61.6	71.3	60.0
8	A7(T), north of Langholm	49.7	57.6	60.0

10.5.8 The speed information shown in Table 10.5 indicates that the 85th percentile speeds exceed the speed limit at the A74(M) northbound and southbound count locations, as well as along the A7(T) in the vicinity of the A7(T) / Auchenrivock Road priority junction (south). 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.

10.5.9 The speed summary indicates that the wind farm construction contracts and a Construction Traffic Management Plan (CTMP) must feature maximum speed measures for all contractors working on the site to ensure that the speed limit is adhered to, and that slower construction traffic can assist in slowing down other vehicles on the access routes.

Accident Review

10.5.10 Road traffic accident data for the period commencing 01 January 2018 through to 30 June 2021 was obtained from the online resource www.crashmap.co.uk which uses data collected by police about road traffic crashes occurring on British roads. It should be noted that at the time of writing this assessment, there was only provisional data available for 2021, up until June.

10.5.11 The statistics are categorised into three categories which include “slight” for damage only incidents, “serious” for injury accidents and “fatal” for accidents that result in death. A summary of the recorded accidents is presented in Table 10.6.

Table 10.6: Summary of Accidents

Road Link	No. of Accidents Recorded	Casualty Types				Vehicle Types					
		Pedal Cycle	Child	Motorcycle	Pedestrians	Pedal Cycle	Motorcycle	Car	HGV	Bus	Young Driver
A7(T)	5	0	1	2	1	0	2	4	1	0	0
A74(M)	10	0	0	0	0	0	0	7	6	0	3

10.5.12 Further details on the recorded accidents are presented in Technical Appendix 10.1 and the locations and severity of the accidents are presented in Figure 10.3.

10.5.13 Details of accidents which were recorded in similar locations are presented below:

- There was a total of fifteen accidents recorded within the study area, of which six accidents were recorded as slight and seven were recorded as serious. Two of the accidents were recorded as fatal; The two fatal accidents occurred along the A74(M);
- One fatal accident occurred to the south-east of Kirtlebridge and was recorded as a single-vehicle accident involving a car; and
- One fatal accident was recorded as a two-vehicle accident involving HGVs to the north-west of Kirtlebridge.

10.5.14 The review of the accident data did not reveal any apparent accident trends within the study area.

Sustainable Links

10.5.15 A review of Dumfries and Galloway Councils (DGC) online mapping application (<https://www.dumgal.gov.uk/article/15304/Core-paths-in-Dumfries-and-Galloway>) indicates that the following core paths will be located along the proposed access route to the site:

- Mouldy Hill to Outer Hill; and
- Cockplay Hill Walk.

10.5.16 It is proposed that the access to the site from the public road network will travel along the Mouldy Hill to Outer Hill and Cockplay Hill Walk core paths. These paths will be upgraded to ensure that both construction vehicles and potential path users can safely use these links together. It is proposed that the paths will be upgraded to 4.5m wide tracks, and will contain core path refuge areas and other features which will segregate path users from construction vehicles. Further mitigation measures will be provided in the form of a Path Management Plan, which is detailed in the Mitigation section of this chapter.

10.5.17 A review of Sustrans' National Cycle Network (NCN) online information (<https://www.sustrans.org.uk/national-cycle-network>) shows that there are no National Cycle Routes (NCRs) in the vicinity of the site.

10.5.18 There is a shared path located, approximately 350m in length, along the A7(T) between the Auchenrivock Road (approximately 20m east of A7(T) / Auchenrivock Road priority junction (south)) and the U249A (signposted for Hollows).

10.5.19 A review of Google Maps indicates that there are bus stops located approximately 150m to the south of the A7(T) / Auchenrivock Road priority junction (south), which facilitates the following services:

- X95 - bus route from Edinburgh to Carlisle (six services each way daily between Monday to Friday and three services each way on Sunday);
- 122 / 123 - bus route from Langholm - Hollows / Rowanburn (four services each way daily between Monday to Friday (including on school service), three services each way daily on Saturdays and no services on Sundays); and
- 127 - bus route from Newcastleton to Langholm (two / three services each way daily between Monday to Friday (including a school service)).

10.5.20 While the location is designated as a bus stop, there are no bus stop facilities such as flagpole, shelter or bus bay at the location. It appears as though this is an informal bus stop location.

Future Baseline

10.5.21 Construction of the proposed development is expected to commence in 2026 if consent is granted and it is expected to take up to 15 months, depending on weather conditions and ecological considerations.

10.5.22 To assess the likely effects during the construction phase, 2026 baseline traffic flows were determined by applying a NRTF low growth to the 2022 traffic flows presented in Table 10.4. The NRTF low growth factor for 2022 to 2026 is 1.021.

10.5.23 Traffic flows associated with committed developments were added to the 2026 baseline traffic flows in order to calculate the 2026 Future Baseline Traffic Flows (i.e. Construction Peak Traffic Impact Assessment). Details of the committed developments added to the 2026 baseline are presented in Technical Appendix 10.1.

10.5.24 The 2026 Future Baseline Traffic Flows are presented in Table 10.7.

Table 10.7: 2026 Future Baseline Traffic Flows

Site Ref	Survey Location	Cars & LGVs	HGV	Total
1	A7(T), south of A7(T) / Auchenrivock Road priority junction (south)	3,232	627	3,860
2	A7(T), south of Canonbie	4,212	538	4,751
3	A7(T), west of Crofthead	3,693	367	4,060
4	A6071, west of Gaitle	3,056	707	3,764
5	A74(M), northbound between Jct 21 and 22	12,423	6,049	18,472
6	A74(M), southbound between Jct 21 and 22	12,288	5,935	18,223
7	A7(T), north of A7(T) / Auchenrivock Road priority junction (south)	3,232	627	3,860
8	A7(T), north of Langholm	1,914	387	2,302

Please note minor variances due to rounding may occur.

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

10.5.26 A review of sensitive receptors has been undertaken within the study area. Table 10.8 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 10.2.

Table 10.8: Receptor Sensitivity Summary

Receptor	Sensitivity	Justification
C70A and U251A Road Users	High	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs.
Auchenrivock Road Users	High	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs.
A7(T) Road Users	Low	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.
A6071 Road Users	Low	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.
A74(M) Road Users	Negligible	Where roads have no adjacent settlements.
Core Path Users	High	Minor path used by walkers and cyclists, not constructed to accommodate HGV traffic flows.
Langholm Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Residents along the A7(T)	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.

10.5.27 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.

10.5.28 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%.

10.6 Assessment of Potential Effects

Construction Effects

10.6.1 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.

10.6.2 During the assumed 15-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;
- ALLs consisting of the wind turbine components and high-capacity crane(s); and
- Escort vehicles for ALL deliveries.

- 10.6.3 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.
- 10.6.4 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.
- 10.6.5 The components can be delivered on a variety of transport platforms with typical examples illustrated in the Technical Appendix 10.1: Annex A AIL Route Survey Report.
- 10.6.6 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.
- 10.6.7 The resulting traffic generation profile is attached in Technical Appendix 10.1: Transport Assessment for review. The peak of construction occurs in Month 2 with 126 HGV movements per day (63 inbound and 63 outbound) and 84 Car / LGV movements (42 inbound trips and 42 outbound trips). These figures on average indicate approximately five HGVs arriving at the site every hour at the peak period.
- 10.6.8 The distribution of proposed development traffic on the public road 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 A7(T) / Auchenrivock Road priority junction (south) and subsequently via the U251A / Auchenrivock Road priority junction to the access tracks located approximately 400m to the north of the access to Old Irvine Farm;
 - All abnormal loads would be delivered from King George V (KGV) Docks in Glasgow via the A74(M), A6071, A7(T), Auchenrivock Road and U251A;
 - Deliveries associated with concrete materials, such as aggregate, cement powder and water will be sourced from local concrete suppliers and delivered via the A74(M), A6071, A7(T), Auchenrivock Road and U251A;

- Aggregate materials requirements for on-site works will be sourced from a combination of on-site borrowpits and local quarries. The materials sourced from quarries will be delivered via the A74(M), A6071, A7(T), Auchenrivock Road and the U251A. The applicant will confirm final quarry and material sourcing with DGC within the CTMP;
- HGV deliveries associated with the HV electrical installation, control buildings and batteries etc. will arrive via the A74(M);
- Staff working at the site are likely to be based locally. It is assumed that 50% will come from the north, along the A7(T), and 50% will come from the south, along the A7(T); and
- General site deliveries will be via the A7(T) from the south. These are generally smaller rigid vehicles.

- 10.6.9 The routes which will be used by construction delivery traffic within the study area as well as AIL routes are illustrated in Figure 10.4.
- 10.6.10 Details of the mitigation measures which are required to facilitate the AIL deliveries are presented as part of Technical Appendix 10.1.
- 10.6.11 To estimate the total trips through the study area during the peak of the construction phase, traffic was distributed through the public road network and combined with the 2026 Future Baseline traffic data. The resulting figures were compared with the weekday 2026 Baseline traffic (Table 10.7) to provide a percentage change in movements which is shown in Table 10.9.

Table 10.9: 2026 Baseline + Construction Development - Flows and Impact

Site Ref	Survey Location	Cars & Lights	HGV	Total	% Increase Car & Lights	% Increase HGV	% Increase Total
1	A7(T), south of A7(T) / Auchenrivock Road priority junction (south)	3,274	753	4,027	1.29%	20.04%	4.34%
2	A7(T), south of Canonbie	4,254	664	4,918	0.99%	23.35%	3.53%
3	A7(T), west of Crofthead	3,734	493	4,227	1.13%	34.22%	4.13%
4	A6071, west of Gaitle	3,098	833	3,931	1.37%	17.77%	4.45%
5	A74(M), northbound	12,444	6,112	18,556	0.17%	1.04%	0.45%

Site Ref	Survey Location	Cars & Lights	HGV	Total	% Increase Car & Lights	% Increase HGV	% Increase Total
	between Jct 21 and 22						
6	A74(M), southbound between Jct 21 and 22	12,309	5,998	18,307	0.17%	1.06%	0.46%
7	A7(T), north of A7(T) / Auchenvivock Road priority junction (south)	3,274	627	3,901	1.29%	0.00%	1.08%
8	A7(T), north of Langholm	1,956	387	2,343	2.18%	0.00%	1.82%

Please note minor variances due to rounding may occur.

10.6.12 The total traffic movements are not anticipated to increase by more than 30% on the study area (with the exception of Auchenvivock Road and the C70A and U251A).

Total traffic levels at the locations shown in Table 10.9 are all below an increase of 5%, which is less than what is generally accepted as daily variation in traffic flows (i.e. 10%).

10.6.13 The total HGV traffic movements will increase on the A7(T). Whilst this increase is statistically high, it is generally caused by the relatively low HGV flows on the A7(T) and will see an additional 126 HGV journeys per day (63 inbound and 63 outbound). The represents an additional 13 HGV journeys every hour during construction activities, which is not significant in terms of overall traffic flows.

10.6.14 A review of existing road capacity has been undertaken using the Design Manual for Roads and Bridges, Volume 15, Part 5 “The NESAs Manual”. The theoretical road capacity has been estimated for each of the road links that makes up the study area. The results are summarised in Table 10.10.

Table 10.10: 2026 Future Baseline + Construction Development - Capacity Summary

Site Ref.	Survey Location	2026 Baseline Flow	2026 Base + Development Flows	Theoretical Road Capacity	% Used Capacity	% Spare Capacity
1	A7(T), south of A7(T) / Auchenvivock Road priority junction (south)	3,860	4,027	36,000	11%	89%
2	A7(T), south of Canonbie	4,751	4,918	28,800	17%	83%
3	A7(T), west of Crofthead	4,060	4,227	28,800	15%	85%
4	A6071, west of Gaitle	3,764	3,931	21,600	18%	82%
5	A74(M), northbound between Jct 21 and 22	18,472	18,556	68,400	27%	73%
6	A74(M), southbound between Jct 21 and 22	18,223	18,307	68,400	27%	73%
7	A7(T), north of A7(T) / Auchenvivock Road priority junction (south)	3,860	3,901	36,000	11%	89%
8	A7(T), north of Langholm	2,302	2,343	28,800	8%	92%

Please note minor variances due to rounding may occur.

10.6.15 The results indicate there are no road capacity issues caused by the proposed development and that ample spare capacity exists within the public road network to accommodate construction phase traffic. No link capacity issues are anticipated with either the C70A or U251A.

10.6.16 In accordance with the IEMA Guidelines Rules 1 and 2, detailed assessments have been undertaken on the following receptors:

- A7(T) users;
- C70A & U251A users;
- Auchenvivock Road users; and
- Core path users.

10.6.17 The significance of the potential effects has been determined using the rules and thresholds discussed previously. Table 10.11 summarises the significance on the receptors for the construction phase.

Table 10.11: Overall Construction Phase Effects

Receptors	Severance	Driver Delay	Pedestrian Delay	Amenity	Fear	Accidents & Safety
A7(T) Users	Minor	Minor	Minor	Minor	Minor	Minor
C70A & U251A Users	Major	Major / Moderate	Moderate	Major	Major	Moderate
Auchenrivock Road Users	Major	Moderate	Moderate	Major	Major	Moderate
Core Path Users	Major	Negligible	Moderate	Major	Major	Moderate

10.6.18 The assessment of significance suggests that U251A, Auchenrivock Road and core path users would experience significant effects, prior to the application of mitigation measures.

10.6.19 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

10.6.20 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

10.6.21 No potential significant decommissioning effects are predicted as part of the proposed development and this topic has been scoped out of this assessment.

10.7 Mitigation

10.7.1 During the construction phase, total traffic levels are expected to increase significantly along the C70A, U251A, Auchenrivock Road and the core paths along the off-site access track. HGV flows along the A7(T) west of Crofthead are also expected to increase by over 30%. The following mitigation measures are proposed to mitigate the effects of the increase in construction traffic.

General Construction Traffic

10.7.2 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 DGC.

10.7.3 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 Staff Travel Plan, including transport modes to and from the site (including pick up and drop off times);
- A Transport 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 the views of DGC
- Unless otherwise agreed with the roads authorities, normal site working hours would be limited to between 07:00 and 19:00 (Monday to Saturday) though component delivery and turbine erection may take place outside these hours;
- Appropriate traffic management measures would be put in place on the U251A and Auchenrivock Road to avoid conflict with general traffic, subject to the agreement of DGC. 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 20mph for all construction vehicles through the C70A, U251A and Auchenrivock Road.

- 10.7.4 A CTMP will be prepared prior to works commencing and will confirm all of the measures proposed for the proposed development. 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 DGC.
- 10.7.5 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.
- 10.7.6 DGC 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 DGC. 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.
- 10.7.7 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

- 10.7.8 The AIL Route Survey Report (RSR) highlights a number of constraint points which have been assessed within the report using swept path assessment software. The locations of the constraint points and the swept path drawings are included in Technical Appendix 10.2.
- 10.7.9 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 lighting columns, road signs and walls / fences, traffic management measures, utility searches, vegetation trimming, review of the vertical profile of roads to determine if tar wedges are required, provision of overrun areas and road widening. These works are to be agreed with DGC and other relevant stakeholders.
- 10.7.10 AIL mitigation works can be designed to be temporary in nature to enable the restoration to their original condition (if required by DGC).
- 10.7.11 Discussions with TS have been held to ascertain if a direct AIL only access (inbound only) onto the A7 can be provided. Discussions are at an early stage at present and, should this proposal proceed, the new arrangement would be included in a revised Route Survey Report that would be provided to both TS and DGC once the candidate turbine has been confirmed, post planning determination. The requirement for the updated Route Survey Report is a reasonably standard planning condition and the applicant would welcome a suitable condition on this matter.

Transport Management Plan

- 10.7.12 A Transport Management Plan 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 public road network. It is likely that the abnormal load convoys would travel in to avoid school drop off and pick up times.
- 10.7.13 Most 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.
- 10.7.14 Advance warning signs would be installed on the approaches to the affected public 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).

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

10.7.16 The 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;
- 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.

Onsite Measures delivered using a Path Management Plan

10.7.17 Within the proposed development and the Old Irvine - Kerr track, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the paths.

10.7.18 Users of the core paths would be separated from construction traffic through the use of barriers and other features to be approved in discussion with DGC. 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.

10.7.19 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.

10.7.20 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.

10.7.21 The British Horse Society has made recommendations on the interactions between HGV traffic and horses. 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.

10.7.22 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.

10.7.23 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

10.7.24 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

10.7.25 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

10.7.26 As decommissioning would result in fewer vehicle trips on the public 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.

10.8 Assessment of Residual Effects

10.8.1 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 10.14.

10.8.2 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.

10.9 Assessment of Cumulative Effects

10.9.1 A review of the consented developments, including onshore wind farm developments, to be included as cumulative developments in the traffic and transport assessment are presented in Technical Appendix 10.1.

10.9.2 As noted in Technical Appendix 10.1, there are four other onshore wind farm developments which have been granted planning consent and are anticipated to use part of the proposed construction and AIL delivery route during their peak construction periods, which are:

- Windy Edge Wind Farm;
- Pines Burn Wind Farm;
- Hopsrig Wind Farm; and
- Loganhead Wind Farm.

10.9.3 While it is unlikely that these all of these developments would be constructed concurrently and that their peak construction months would align, a combined sensitivity review has been undertaken to inform of possible issues if all five of the sites (including the proposed development) were to be constructed concurrently.

10.9.4 The peak flows for the sites were obtained from their respective planning application documents (see Table 10.12) and then compared to the 2026 future baseline year in Table 10.13.

Table 10.12: Committed Development Traffic Summary

Site Ref.	Survey Location	Bloch		Windy Edge		Pines Burn		Hopsrig		Loganhead	
		Cars & Lights	HGV	Cars & Lights	HGV	Cars & Lights	HGV	Cars & Lights	HGV	Cars & Lights	HGV
1	A7(T), south of A7(T) / Auchenrivock Road priority junction (south)	42	0	28	55	0	37	40	246	20	246
2	A7(T), south of Canonbie	42	126	28	55	0	37	40	246	20	246
3	A7(T), west of Crofthead	42	126	28	55	0	37	40	246	20	246
4	A6071, west of Gaitle	42	126	0	0	0	0	0	0	0	0
5	A74(M), northbound between Jct 21 and 22	21	63	0	0	0	0	0	0	0	0
6	A74(M), southbound between Jct 21 and 22	21	63	0	0	0	0	0	0	0	0
7	A7(T), north of A7(T) / Auchenrivock Road priority junction (south)	42	0	28	55	0	37	40	246	20	246
8	A7(T), north of Langholm	42	0	28	55	0	37	0	0	0	0

Table 10.13: Combined Scheme Sensitivity Traffic Impact (2026)

Site Ref	Survey Location	Cars & Lights	HGV	Total	% Increase Car & Lights	% Increase HGV	% Increase Total
1	A7(T), south of A7(T) / Auchenrivock Road priority junction (south)	130	584	714	4%	93%	18%
2	A7(T), south of Canonbie	130	710	839	3%	132%	18%
3	A7(T), west of Crofthead	130	710	839	4%	193%	21%
4	A6071, west of Gaitle	42	126	167	1%	18%	4%
5	A74(M), northbound between Jct 21 and 22	21	63	84	0%	1%	0%
6	A74(M), southbound between Jct 21 and 22	21	63	84	0%	1%	0%
7	A7(T), north of A7(T) / Auchenrivock Road priority junction (south)	130	584	714	4%	93%	18%
8	A7(T), north of Langholm	70	92	162	4%	24%	7%

Please note minor variances due to rounding may occur.

- 10.9.5 The combined traffic flows indicates that there is an increase in traffic flows on the A7(T) for HGV traffic, there would however be more than sufficient spare road capacity to accommodate this in the event of the five sites being constructed at the same time.
- 10.9.6 Any effects of all five sites being constructed at the same time would be mitigated through the use of an overarching Traffic Management and Monitoring Plan for all five sites and by introducing a phased delivery plan which would be agreed with DGC and Police Scotland.
- 10.9.7 It should be noted that it is not predicted that the potential traffic flow increases could ever occur within the study area for the following reasons:

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

10.10 Summary

- 10.10.1 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.
- 10.10.2 The maximum traffic impact associated with construction is predicted to occur in Month 2 of the indicative construction programme.
- 10.10.3 The traffic associated with the proposed development, at the peak of construction, would result in 126 HGV movements per day (63 inbound and 63 outbound) and 84 Cars & Lights (42 inbound and 42 outbound).
- 10.10.4 The greatest impact would occur along the A7(T), west of Crofthead, Auchenrivock Road and the C70A, U251A and the core path network.
- 10.10.5 A sensitivity review was undertaken to inform the planning authorities of possible issues if consented schemes in the area, whose construction traffic would impact the study area, were constructed concurrently. The review found that there would be more than sufficient spare road capacity to accommodate all schemes being constructed at the same time. It is proposed that an 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.
- 10.10.6 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 10.14: 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 DGC prior to construction activities commencing.	Not significant
Driver delay	CTMP Proposals and improved signage	Via a condition of consent. CTMP to be agreed with DGC prior to construction activities commencing.	Not significant
Pedestrian delay	CTMP and Path Management Plan proposals	Via a condition of consent. CTMP and Path Management Plan to be agreed with DGC prior to construction activities commencing.	Not significant
Pedestrian amenity	CTMP and Path Management Plan proposals	Via a condition of consent. CTMP and Path Management Plan to be agreed with DGC prior to construction activities commencing.	Not significant
Fear and intimidation	CTMP and Path Management Plan proposals	Via a condition of consent. CTMP and Path Management Plan to be agreed with DGC prior to construction activities commencing.	Not significant
Accidents and safety	CTMP and Path Management Plan proposals	CTMP Proposals, improved signage and develop signage strategy and agree works with TS and DGC.	Not significant
Operation Phase			
None	None	None	None
Decommissioning Phase			
None	None	None	None

Table 10.15: Acronyms and Abbreviations

Acronyms & Abbreviations	Term in Full	Meaning/Definition
AADT	Annual Average Daily Traffic	The average traffic flow over the course of a full year which passes a particular location on the public road network each day.
ATC	Automatic Traffic Counter	Equipment which is laid across a road and measures traffic characteristics such as the number of vehicles passing over it, speed and classification.
AIL	Abnormal Indivisible Load	Loads / vehicles which exceed the maximum vehicle weight, axle weight or dimensions which are set out in the Road Vehicles (Construction and Use) Regulations 1986 as amended.
CTMP	Construction Traffic Management Plan	Document which outlines traffic management measures to mitigate adverse impacts associated with construction related traffic.
DfT	Department for Transport	Department for Transport
DGC	Dumfries and Galloway Council	Dumfries and Galloway Council
DMRB	Design Manual for Roads and Bridges	Design Manual for Roads and Bridges
HGV	Heavy Goods Vehicle	All goods vehicles > 3.5 tonnes gross maximum weight.
IEMA	The Institution of Environmental Management and Assessment	The Institution of Environmental Management and Assessment
Lights or LGV	Light goods vehicles	All commercial vehicles < 3.5 tonnes gross maximum weight.
NCR	National Cycle Route	Designated National Cycle Routes within the UK.
NRTF	National Road Traffic Forecast	Factors used to apply future year growth to traffic flows.
OS	Ordnance Survey	Great Britain's national mapping agency.
PoE	Port of Entry	Port from which AIL are to be delivered.
RSR	Route Survey Report	Report assessing the suitability of a route to transport abnormal loads.
TS	Transport Scotland	Transport Scotland