12 Traffic and Transport

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12 Traffic and Transport

12.1 Executive Summary

12.1.1 Strategic access to the site is provided by the A77 trunk road which is located to the north-west of the Proposed Development. There are currently two potential access points being considered to the site. Only one access point will be chosen for the turbine load deliveries. It should be noted that the final choice on the accesses will be agreed with South Ayrshire Council post consent and secured by planning condition.

12.1.2 The Western Access is located along Hill Road, to the south of Cloyntie. The Northern Access is reached by joining the B741 after Cloyntie Bridge and turning onto the Unclassified Road unofficially signposted as Bennan's Farm, approximately 2 km to the south-west of Straiton. The locations of the proposed access points are shown in Figure 4 of EIA Report Volume 4: Technical Appendix 12.1.

12.1.3 Detailed information regarding the route which will be used when delivering the wind turbine components is provided within the Route Survey Report (RSR) contained in EIA Report Volume 4: Technical Appendix 12.1. The RSR notes that due to the size of the SG155 components (The selection of the final turbine model and specification will be subject to a commercial procurement process following consent of the application) , it is not considered possible to transport blade components through the Port of Ayr. As such, it is proposed that blade components will be transported into King George V (KGV) Dock, Glasgow. All other components will be landed at the Port of Ayr and continue to the proposed site entrance.

12.1.4 The construction traffic would result in a temporary increase in traffic flows on the road network surrounding the Proposed Development. The maximum traffic effect associated with construction of the Proposed Development is predicted to occur in month eight of the construction programme. During this month, an average of 74 HGV movements is predicted per day and it is estimated that there would be a further 35 car and light van movements per day to transport construction workers to and from the Proposed Development. No significant effects are expected on receptors along transport routes as a result of vehicle movements associated with the construction of the Proposed Development.

12.2 Introduction

12.2.1 This Chapter examines the transport and access issues associated with the Proposed Development and considers the likely significant effects on receptors along the transport routes as a result of vehicle movements associated with the construction of the Proposed Development. The specific objectives of the Chapter are to:

- Review the relevant policy and legislative framework;
- Describe the transport baseline conditions;
- Describe the assessment methodology and significance criteria used in completing the impact assessment;
- Describe the potential effects, including direct, indirect and cumulative effects;
- Describe the mitigation measures proposed to address likely significant effects; and
- Assess the residual effects remaining following the implementation of mitigation.

12.2.2 A high-level overview of the effect 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 Environment Assessment of Road Traffic. The document is referred to as the IEMA Guideline in this Chapter.

12.2.3 This Chapter considers effects on the following:

- The existing baseline transport conditions of the study area surrounding the Proposed Development;
- The likely infrastructure requirements necessary to enable the Proposed Development;
- The likely effects and changes associated with the imposition of construction traffic on the local road network;
- The measures that will be required to mitigate against any potential significant effects of the temporary construction traffic;
- The likely traffic conditions during the operational phase of the Proposed Development; and
- The likely traffic conditions during the decommissioning phase of the Proposed Development.

12.2.4 A Scoping Request was sent to the Scottish Government in December 2020 which included a scheme with twelve wind turbines with a tip height up to 200 m. Following additional studies, as well as consultations with local communities, it was decided to reduce the number of turbines from twelve to nine, as well as to reduce the tip heights of three of these turbines to 180m. This Traffic and Transport Chapter will therefore consider the traffic impacts associated with the revised scheme comprising nine wind turbines. The assessment is therefore based on the proposed development as described in Chapter 3(EIA Report Volume 1).

12.2.5 The assessment has been carried out by Gordon Buchan BEng (Hons), MSC, CMILT, FCIHT, Divisional Director of Pell Frischmann. He has over 25 years' experience of undertaking the transport assessments associated with new developments and has worked on renewable energy and energy distribution projects across the UK, Ireland and Northern Europe.

12.2.6 The Chapter should be read in conjunction with EIA Report Volume 4: Technical Appendix 12.1 .

12.3 Legislation, Policy and Guidelines

12.3.1 The relevant legislation, policy and guidelines have been taken into consideration during the traffic and transport assessments outlined in this Chapter.

Legislation

12.3.2 There is no legislation applicable to this Chapter.

Planning Policy

12.3.3 Planning policies of relevance to this assessment are outlined in **Chapter 5** and include sections of the following policies relevant to the Proposed Development:

- Scottish Planning Policy (2020): Promoting Sustainable Transport and Active Travel; and
- South Ayrshire Local Development Plan (2014): Land Use and Transport.

Guidance

12.3.4 Recognisance has been taken of the following best practice guidance:

- Planning Advice Note (PAN) 75: Planning for Transport (2005); and
- Transport Scotland's Transport Assessment Guidance (2012).

12.4 Consultation

12.4.1 A Scoping Report was submitted to the Scottish Government on 3 December 2020, to which a Scoping Opinion was received in March 2021.

12.4.2 Key requirements for the assessment of transport impacts resulting from the scoping exercise are summarised in Table 12.1.

Table 12.1 – Summary of Consultation Responses

Consultee	*Response*	*Comment*
British Horse Society – 25 January 2021	The response notes that 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 and road safety interventions should be introduced, where there are significant numbers if horse riders and / or road traffic collisions involving horses.	Details of recommendations made by the British Horse Society regarding the interactions between HGV traffic and horses are provided as part of the onsite measures which will be delivered using a Core Path Management Plan as detailed in the Additional Mitigation Measures and Enhancements section of this Chapter.
Nature Scot – 17 February 2021	Consultation should be undertaken with Nature Scot on the finalised access route and its environmental impacts in order to assess the entirety of the application as part of the EIA submission for this development.	It is anticipated that the final choice on the access route will be agreed with South Ayrshire Council post consent. Details of both routes which are being considered are provided as part of this Chapter, as well as in the EIA Report Volume 4: Technical Appendix 12.1.
ScotWays – 15 February 2021	ScotWays recommend that the applicant consults the Core Paths Plans prepared by the access team at South Ayrshire Council in accordance with the Land Reform (Scotland) Act 2003. ScotWays ask that all public and recreational routes are protected when siting the internal tracks and also when deciding the access route into the Proposed Development.	Details of the Core Paths are provided in Section 12.6: Baseline Conditions – Active Travel Networks in this Chapter as well as in EIA Report Volume 4: Technical Appendix 12.1. A Core Path Management Plan will contain on-site measures which will be delivered during the construction phase. This is detailed in the Additional Mitigation Measures and Enhancements section of this Chapter.
South Ayrshire Council – Access Officer – 04 March 2021	During the construction phase it is likely that vehicular traffic will impact on the core path / right of way route, which includes the single-track road past	A Core Path Management Plan will contain on-site measures which will be delivered during the construction phase. This is detailed in the Additional

	Balbeg and Dalmorton. This would need to be considered to ensure that the route is kept open and safe for public use. A benefit would be to improve the surface or signage on sections of the core path SA47 / right of way SKC7, which the developer should be able to carry out during or just after the construction phase.	Mitigation Measures and Enhancements section of this Chapter.
Transport Scotland (TS) – 28 January 021	TS are in agreement of the approach outlined in Chapter 10 of the Scoping Report which notes that the forthcoming Environmental Impact Assessment Report (EIAR) Transport & Access Chapter will be supported by both a Transport Assessment Report and an Abnormal Load Route Survey. The screening process for the assessment will be as indicated within the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic. TS is satisfied that traffic data for the A77(T) will be obtained from the UK's Department for Transport (DfT) traffic count data and National Road Traffic Forecast (NRTF) Low Traffic Growth in order to provide a future year baseline. TS are satisfied with the Scoping Report's methodology to assess the environmental impacts such as driver delay, pedestrian amenity, severance, safety etc using IEMA Guidelines. TS consider this approach acceptable and that	Noted. The Transport Assessment and Abnormal Load Route Survey are contained in EIA Report Volume 4 Technical Appendix 12.1. Noted. Noted.

	they are content that no further assessment is required if the IEMA thresholds are not exceeded. TS will require to be satisfied that the size of the turbines proposed can negotiate the selected route and that transportation will not have any detrimental effect on structures within the trunk road route path. The Abnormal Loads Assessment report should identify 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. TS notes that it is acceptable that the operational and decommissioning phases of the development are scoped out of the EIAR.	Noted. EIA Report Volume 4 contains Technical Appendix 12.1 which identifies pinch points along the access routes, as well as swept path analysis. Noted.
Crosshill, Straiton and Kirkmichael Community Council – 23 February 2021	Request details of the proposed access route for AIL deliveries and stone.	Noted. EIA Report Volume 4 Technical Appendix 12.1 provides details on the proposed access routes as well as assumptions regarding site deliveries.
Dailly Community Council – 25 March 2021	Request details of the number of construction related delivery trips. Notes that roads in the immediate site area are not appropriate for the AIL delivery vehicles.	Noted. EIA Report Volume 4 Technical Appendix 12.1, provides details on the number of delivery trips. The Abnormal Indivisible Load Route Survey Report details mitigation measures to ensure that local roads will be able to accommodate AIL delivery vehicles.

	Requests that decommissioning should be scoped in.	It is proposed that the effects of decommissioning would be assessed closer to that period, 30 years on from the completion of construction of the site.

12.5 Assessment Methodology and Significance Criteria

12.5.1 The methodology adopted in this assessment involved the following key stages:

- Determine the baseline for traffic and transport;
- Review Proposed Development for potential significant impacts;
- Evaluate significance of effects on receptors;
- Identify mitigation; and
- Assess residual effects.

Consultation

12.5.2 As noted in section 12.4, consultation was undertaken with relevant transport agencies with the purpose of agreeing on the assessment methodology and significance criteria.

12.5.3 Transport Scotland noted that the approach outlined in the scoping proposals was acceptable and are content that no further assessment is required if the IEMA thresholds are not exceeded.

12.5.4 Transport Scotland noted that it was acceptable to scope out the operational and decommissioning phases of the development in the EIA Report.

Study Area

12.5.5 The Study Area includes local roads that are likely to experience increased traffic flows resulting from the Proposed Development. The geographic scope was determined through a review of Ordnance Survey (OS) plans and an assessment of the potential origin locations of construction staff and supply locations for construction materials.

12.5.6 The Study Area for this assessment is as follows and has been agreed with the relevant transport authorities during scoping:

- Hill Road to the south of Cloyntie;
- Unclassified road to the south-west of Straiton (unofficially signed as Bennan Farm);
- Along the B741 to the east of Cloyntie;
- B7023 to the south of Maybole;
- B7045 between the A77 and link road to B7023; and
- A77 between Maybole and Nether Auchendrane.

12.5.7 The Study Area network is illustrated in EIA Report Volume 4 Technical Appendix 12.1.

12.5.8 As the abnormal loads associated with the wind turbines have two potential access points, it should be noted that the final choice on the access route from the A77 will be agreed with SAC post consent and secured by planning condition.

12.5.9 Strategic access to the site is provided by the A77 trunk road which is located to the north east of the site. Local road access to the site is subsequently available via the B7045, B7023, Dalhowan Street and southbound via Hill Road to the Western Access.

12.5.10 The Northern Access is reached by joining the B741 after Cloyntie Bridge and turning onto the unclassified road unofficially signposted as Bennan's Farm. The AIL Route Survey Report provided in EIA Report Volume 4 Technical Appendix 12.1 outlines details of both of the proposed access routes.

12.5.11 It is proposed that AIL components will be delivered to both the Port of Ayr and KGV Dock, Glasgow. Due to the size of the indicative SG155 components (the selection of the final turbine model and specification will be subject to a commercial procurement process following consent of the application) it is not considered possible to transport blade components through the Port of Ayr, therefore, it is proposed that blade components will be transported into KGV Dock, Glasgow. All other components will be landed at the Port of Ayr and continue to the proposed site entrance along the A77 and subsequently through local roads which include B7045, B7023, B741, Hill Road and an unclassified road to the south-west of Straiton.

Potential Effects Scoped Out

12.5.12 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 operational phase are scoped out of the assessment.

12.5.13 The traffic effects during the decommissioning phase can only be fully assessed closer to that period, 30 years on from the completion of construction of the site. As elements of the Proposed Development may 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.

Desk Study

12.5.14 The desk study comprised a review and identification of the following:

- Review of relevant transport planning policy;
- Review of accident data;
- Review of sensitive locations;
- Review of any other traffic sensitive receptors in the area (core paths, routes, communities etc.);
- Review of Ordnance Survey (OS) plans to derive a study area roads network;
- Consideration of potential origin locations of construction staff and potential supply locations for construction materials to inform extent of local area roads network to be considered in the assessment; and
- Review of constraints to the movement of AILs through a Route Survey including swept path assessments.

Site Visit

12.5.15 While a site visit has not been undertaken, traffic flow and speed surveys were undertaken on local roads within the Study Area.

Assessment of Potential Effect Significance

12.5.16 The IEMA 'Guidelines for Environmental Impact Assessment' (2005) noted 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.

Receptor Sensitivity

12.5.17 In terms of traffic and transport impacts, the receptors are the users of the roads within the Study Area and the locations through which those roads pass.

12.5.18 The IEMA Guidelines include 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 12.2.

Table 12.2 – Classification of Receptor Sensitivity

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

12.5.19 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.

Criteria for Assessing the Magnitude of Change

12.5.20 The following rules, also taken from the 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 are predicted to increase by more than 30 % (or where the number of heavy goods vehicles 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.

12.5.21 The IEMA Guidelines identify the key impacts that are most important when assessing the magnitude of traffic effects from an individual development. Table 2.2 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges (DMRB) [Ref 15 8] sets out four levels against which the magnitude of these impacts should be assessed – major, moderate, minor and negligible. The impacts and levels of magnitude are discussed below:

- Severance – the IEMA Guidelines 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"*. (Para 4.28).
- Driver delay – the IEMA Guidelines note that these delays are only likely to be *"significant [or major] when the traffic on the network surrounding the proposed development is already at, or close to, the capacity of the system."* (Para 4.32);
- Pedestrian delay – the delay to pedestrians, as with driver delay, is likely only to be major when the traffic on the 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 (Para 4.39). 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 in severance 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.

12.5.22 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 Table 2.4 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges (DMRB)3 and summarised in Table 12.3.

Table 12.3 – Classification of Receptor Sensitivity

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

12.5.23 In terms of the EIA Regulations, effects would be considered to be significant where they are assessed to be **major** or **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 and whether the effect is significant or not.

12.5.24 The assessment is based upon average traffic flows in one month periods. During the month, activities at the Proposed Development could fluctuate between one day and another and it is not possible to fully develop a day by day traffic flow estimate as no Balance of Plant (BoP) contractor has been appointed and external factors can impact upon activities on a day by day basis (weather conditions, availability of materials, time of year, etc.).

Requirements for Mitigation

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

Assessment of Residual Effect Significance

7.1.1 Residual effects will be assessed following a similar methodology as the potential effects but taking into consideration the identified mitigation.

Limitations to Assessment

12.5.26 The assessment is based upon an assumed construction programme for the Proposed Development. Alterations in this programme may increase or decrease traffic flows per month.

12.5.27 This assessment is based upon average daily traffic flows within the peak month of site deliveries to provide a worst-case assessment scenario. There may be localised peaks with construction days where flows can be higher for a specific hour, such as shift change on the site.

12.6 Baseline Conditions

Current Baseline

Hill Road

12.6.1 Hill Road is a local road maintained by Ayrshire Roads Alliance and is approximately 3.25 to 4 m in width. The road is subject to a weight limit of 3 tonnes which is assumed to be in place to prevent heavy forestry traffic. There are a number of residential and farm accesses along the northern section of road near Cloyntie while along the southern section of road there are mainly accesses to fields and forestry.

Unclassified Road (Approx. 2km south-west of Straiton)

12.6.2 The unclassified road where the second access junction is to be located is unofficially signed as an access route to "Bennan Farm" from the B741. The road is maintained by Ayrshire Roads Alliance and is approximately 2.75 m in width. There are a number of field accesses along the road as well as a small number of farm and residential accesses.

B741

12.6.3 The B741 is a local road maintained by Ayrshire Roads Alliance and is approximately 5.5 m in width. The road is mainly bound by trees and hedgerows and it also comprises a number of field accesses along its length.

B7023

12.6.4 The B7023 is a local road maintained by Ayrshire Roads Alliance and is approximately 5.75 m in width. The road is mainly subject to the national speed limit, however this reduces to 30 mph when travelling through Crosshill Village. The road is predominantly bound by trees and hedgerows and it also comprises a number of field accesses and along its length. There are also a small number of farm and residential accesses from the B7023.

B7045

12.6.5 The B7045 is a local road maintained by Ayrshire Roads Alliance and is approximately 6 m in width. Approximately 360 m from the priority junction with the A77, there is a bridge which is subject to a height limit of 15.0". The road is mainly bound by trees and hedgerows. There are a number of priority junctions along the length of road as well as direct accesses to dwellings, farms and fields.

A77

12.6.6 The A77 forms part of the trunk road network and is maintained by Amey on behalf of Transport Scotland. The A77 is predominantly subject to the national speed limit however to the north of the priority junction with the B7045, the A77 is subject to a reduced speed limit of 30 mph upon entering Minishant Village.

Baseline Traffic Conditions

12.6.7 In order to assess the impact of construction traffic on the study area Automatic Traffic Count (ATC) surveys were undertaken between Saturday 28 August and Friday 3 September 2021 at the following locations:

1. Hill Road, near the Western Access;
2. Unclassified road (unofficially signed as Bennan's Farm), near the Northern Access;
3. B7023, north of Crosshill; and
4. B7045, north of Grimmet.

12.6.8 Additional traffic data was obtained from existing traffic sources from the UK Department for Transport (DfT) database. The traffic data sourced from the DfT database comprised 2019 data. National Road Traffic Forecasts (NRTF) low growth factors were applied to the 2019 data to estimate 2021 flows (2019/2021 = 1.016). The locations for DfT traffic survey sites are as follows:

5. DfT Count Point 930171, B741, east of Cloyntie; and
6. DfT Count Point 10751, A77, near Nether Auchendrane.

12.6.9 The count site locations are shown in EIA Report Vol 4 Technical Appendix 12.1.

12.6.10 The Annual Average Daily Traffic (AADT) data available at the traffic count locations provided traffic flows which were split into vehicle classes and the data has been summarised into cars / light goods

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

12.6.11 Table 12.4 summarises the 24-hour average daily traffic data collected at the count sites.

Table 12.4 – 24-hour Average Traffic Data (2021 AADT)

Survey Location	Cars & Lights	HGV	Total
Hill Road, near Western Access	32	22	54
Unclassified road, near Northern Access (unofficially signed as Bennan's Farm)	17	13	30
B7023, north of Crosshill	1,907	433	2,340
B7045, north of Grimmet	2,065	430	2,495
B741, east of Cloyntie	557	49	606
A77, near Nether Auchendrane	12,654	1,233	13,888

Please note minor variances due to rounding may occur.

12.6.12 Table 12.5 presents the results of the two-way five-day average and 85th percentile speeds observed at the count locations.

Table 12.5 – Speed Summary (2021)

Survey Location	*Mean Speed (mph)*	*85%ile Speed (mph)*	*Speed Limit (mph)*
Hill Road, near Western Access	28.6	34.4	60.0
Unclassified road, near Northern Access (unofficially signed as Bennan's Farm)	25.6	28.9	60.0
B7023, north of Crosshill	48.1	56.5	60.0
B7045, north of Grimmet	50.9	58.4	60.0
B741, east of Cloyntie	Data not available		60.0
A77, near Nether Auchendrane			60.0

12.6.13 The results of the speed survey data which are presented in Table 12.5 suggest that there is compliance with the existing speed limits within the study area.

Active Travel Networks

12.6.14 Core Path SA47 / Right of Way SKC7 pass through the north-western section of the site.

12.6.15 Core Path SA47 links Straiton via Bennan to Knockskae and the Dalquairn Burn linking to the National Cycle Route 7 at Sally Pollocks Bridge, while local Right of Way SKC7 links Straiton to Dalwhyne.

12.6.16 It should also be noted that SKC7 is a route of historic interest outlined in Scotways' Heritage Paths project as well as being a highlighted route in Scotways' Scottish Hill Tracks publication.

12.6.17 In the vicinity of the access locations, Core Path SA1 runs along Hill Road on the route from Crosshill to the Western Access and continues south along Hill Road. Core Path SA39 is located along the eastern section of the B741 between Laigh Garphar Wood and Straiton along the Northern Access route.

12.6.18 National Cycle Network route number 7 (NCR 7) is located approximately 2.75 km to the west of the site. In the vicinity of the site, NCR 7 forms part of the on-road on the National Cycle Network. NCR 7 is over 860 km long and connects Sunderland and Inverness.

Accident Review

12.6.19 Road traffic accident data for the three-year period commencing 1 January 2018 through to the 31 December 2020 was obtained for the A77, B7045, B7023, B741 and Hill Street within the study area. This information was sourced from the online resource CrashMap.co.uk which uses data collected by police about road traffic crashes occurring on British roads where an accident occurred.

12.6.20 The statistics are categorised into three categories, namely "Slight" for damage only incidents, "Serious" for injury accidents and "Fatal" for accidents that result in a death.

12.6.21 A summary analysis of the incidents indicates that:

- A total of 11 accidents were recorded within the Study Area roads within the three-year period;
- Of those 11 accidents, six were classified as "Serious" and five were classified as "Slight". None of the accidents involved a pedestrian casualty;
- No accidents were recorded along Hill Road or the Unclassified Road (unofficially signed as Bennan's Farm) which lead to the proposed site accesses;
- A motorcycle was involved in two separate accidents which were both classified as "Serious" incidents;
- Young drivers were involved in three incidents of which one was classified as "Serious" and two were classified as "Slight";
- There were no reported incidents involving a pedal cycle in the study area;
- Two accidents were recorded to involve a bus which resulted in two separate "Serious" incidents; and
- Two separate accidents involved an HGV and one was recorded as "Serious" and the other was recorded as "Slight".

12.6.22 The analysis suggests that the local road network within the Study Area has a low accident rate and low HGV incidents.

Future Year Baseline

12.6.23 Construction of the project could commence during 2024 if planning permission is granted, and is anticipated to take up to 18 months depending on weather conditions and ecological considerations.

12.6.24 To assess the likely effects during construction, base year traffic flows were determined by applying NRTF low growth factors to the traffic flows.

12.6.25 The NRTF low growth factor for 2021 to 2024 is 1.016. This factor was applied to the 2021 traffic data (previously outlined in Table 12.4) to estimate the 2024 base traffic flows presented in Table 12.6.

12.6.26 This will be used in the construction Peak Traffic Impact Assessment (please note that any variances in the calculations are due to minor rounding errors).

Table 12.6 – Baseline 2024 AADT Traffic Data

Survey Location	*Cars & Lights*	*HGV*	*Total*
Hill Road, near Western Access	33	22	55
Unclassified road, near Northern Access (unofficially signed as Bennan's Farm)	17	13	30
B7023, north of Crosshill	1,938	440	2,377
B7045, north of Grimmet	2,098	437	2,535
B741, east of Cloyntie	566	50	615
A77, near Nether Auchendrane	12,857	1,253	14,110

Please note minor variances due to rounding may occur.

12.7 Standard Mitigation

Construction Traffic Management Plan (CTMP)

12.7.1 During the construction period, a project website, blog or Twitter feed will regularly updated to provide the latest information relating to traffic movements associated with vehicles accessing the site. This will be agreed with the local roads authority.

12.7.2 The following measures will be implemented during the construction phase through the CTMP:

- Where possible the detailed design process will have minimised the volume of material to be imported to site to help reduce HGV numbers;
- A site worker transport and travel arrangement plan, including transport modes to and from the worksite (including pick up and drop off times);
- A Traffic Management Plan;
- All materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Wheel cleaning facilities may be established at the site entrance, depending upon the views of South Ayrshire Council;

- Unless otherwise agreed with South Ayrshire Council, normal site working hours will be limited to between 0700 and 1900 (Monday to Friday) and 0700 and 1300 (Saturday) though component delivery and turbine erection may take place outside these hours;
- Appropriate traffic management measures will be put in place along the site access roads to avoid conflict with general traffic, subject to the agreement of the roads authority. 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.
- Adoption of a voluntary speed limit of 15 mph for all construction vehicles through Crosshill;
- All drivers would be required to attend an induction to include:
  - A tool box talk safety briefing;
  - The need for appropriate care and speed control;
  - A briefing on driver speed reduction agreements (to slow site traffic at sensitive locations through the villages); and
  - Identification of the required access routes and the controls to ensure no departure from these routes.

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

- Ensure any vegetation which may foul the loads is trimmed back to allow passage;
- Confirm there are no roadworks or closures that could affect the passage of the loads;
- Check no new or diverted underground services on the proposed route are at risk from the abnormal loads; and
- Confirm the police are satisfied with the proposed movement strategy.

Abnormal Load Transport Management Plan

12.7.4 An Abnormal Load Transport Management Plan will be prepared to cater for all movements to and from the Proposed Development. This would include:

- Procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking.
- A diary of proposed delivery movements to liaise with the communities to avoid key dates such as popular local events etc.
- A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic.
- 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 Core Path Management Plan

12.7.5 Within the site, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the core path. These measures will be formulated into a Core Path Management Plan.

12.7.6 Users of the Core Path will be separated from construction traffic through the use of barriers. Crossing points will be provided where required, with core 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.

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

12.7.8 Signage will be installed on the site exit that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This will also be emphasised in the weekly tool box talks.

12.7.9 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 will run away in panic if really frightened. Riders will do all they can to prevent this but, should it happen, it could cause a serious accident for other road users, as well as for the horse and rider.

12.7.10 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.

12.7.11 The British Horse Society recommends the following actions that will be included in the site 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 site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.

Operational Phase Mitigation

12.7.12 The site entrance will be well maintained and monitored during the operational life of the Proposed Development. Regular maintenance will be undertaken to keep the site access track drainage

systems fully operational and the road surface in good condition and to ensure there are no adverse issues affecting the public road network.

12.8 Receptors Brought Forward for Assessment

Proposed Development Access Strategy

12.8.1 There are two potential options where the Proposed Development may be accessed i.e. the Western Access or the Northern Access.

12.8.2 The Western Access would be taken directly from Hill Road to the south of the village of Cloyntie, using an upgraded forestry access junction; the Northern Access junction would comprise an upgraded forestry access junction which will be taken from an unclassified road approximately 2 km to the south-west of Straiton.

12.8.3 It should be noted that the final choice on the accesses will be agreed with South Ayrshire Council post consent and secured by planning condition. Only one access point will be chosen for the turbine load deliveries.

12.8.4 Two potential access routes to the site have been reviewed as part of the Route Survey Report (EIA Report Traffic and Transport: Appendix 12.1) which is dependent on whether the Western Access or Northern Access is determined as the site entrance.

12.8.5 During the 18-month construction period, the following traffic will require access to the site:

- Staff transport, either cars or staff minibuses;
- Construction equipment and materials, deliveries of machinery and supplies such as cement; and
- Abnormal loads consisting of the wind turbine sections and also a heavy lift crane.

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

12.8.7 With regards to abnormal loads, it is proposed that both the Port of Ayr and KGV Dock, Glasgow will be utilised for the turbine deliveries.

12.8.8 Due to the size of the indicative SG155 turbine components it is not considered possible to transport blade components through the Port of Ayr. It is therefore proposed that blade components will be transported into KGV Dock, Glasgow. All other components will be landed at the Port of Ayr and continue to the proposed site entrance.

12.8.9 It should be noted that both the Port of Ayr and KGV Dock in Glasgow have been used extensively for wind turbine component deliveries such as Assel Valley, Arecleoch, Kype Muir and Kellburn Wind Farms.

12.8.10 It is proposed that there will be a diversion for higher loads such as towers and nacelles due to a low bridge located along the B7045. High loads will continue on the A77 into Maybole town before turning left onto Kirkland Street and subsequently joining the B7023 towards the site entrance.

12.8.11 The peak of construction traffic activity was identified as being month eight of the programme. The traffic associated with this month was then assigned to the Study Area network using the distribution of traffic described within the Transport Assessment.

12.8.12 The peak traffic flows associated with the Proposed Development's construction phase results in an average of 109 movements per day (55 trips in and 54 trips out), of which 35 would be made by light vehicles (approx. 18 inbound and 18 outbound) and 74 by HGV (approx. 37 inbound and 37 outbound). Please note that variances are due to rounding.

12.8.13 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 2024 Baseline traffic data. The resulting figures were compared with the 2024 Baseline traffic to provide a percentage change in movements.

12.8.14 This has been undertaken for both the Western Access Route and the Northern Access Route scenarios in the following sub-sections.

Western Access (Hill Road)

12.8.15 The estimated 2024 Future Baseline + Construction Traffic flows and the percentage increase in flows as a result of the Proposed Development are shown in Table 12.7 for the Western Access Route.

Table 12.7 – 2024 Future Baseline + Construction Traffic – Western Access (Hill Road)

Survey Location	Cars & Lights	HGV	Total	% Increase in Car & Lights	% Increase in HGV	% Increase in Total Traffic
Hill Road, near Western Access	68	96	164	107.96%	331.27%	198.94%
Unclassified road, near Northern Access (unofficially signed as Bennan's Farm)	17	13	30	0.00%	0.00%	0.00%
B7023, north of Crosshill	1973	514	2487	1.81%	16.83%	4.59%
B7045, north of Grimmet	2116	511	2627	0.84%	16.95%	3.61%
B741, east of Cloyntie	566	50	615	0.00%	0.00%	0.00%
A77, near Nether Auchendrane	12874	1327	14202	0.14%	5.91%	0.65%

Please note minor variances due to rounding may occur.

12.8.16 With reference to the IEMA Guidelines, total traffic movements are not predicted to increase by more than 30 % on all roads within the study area, with the exception of the site's Western Access.

12.8.17 The table shows that traffic movements will increase by a total of 198.94 % along Hill Road, near the Western Access for this scenario. Whilst this increase is statistically significant, it is generally caused by the relatively low HGV flows on these two roads which will see an additional 35 Cars and Lights journeys per day and 74 HGV journeys per day. This represents a total of nearly six inbound journeys every hour during construction activities, which is not considered significant in overall traffic flow levels.

12.8.18 It should also be noted that the construction phase is transitory in nature and the peak of construction activities is short lived.

Northern Access (Unclassified Road, approximately 2km to the south-west of Straiton)

12.8.19 The estimated 2024 Future Baseline + Construction Traffic flows and the percentage increase in flows are shown in Table 12.8 for the Northern Access Route.

Table 12.8 – 2024 Future Baseline + Construction Traffic – Northern Access (Unclassified Road)

Survey Location	Cars & Lights	HGV	Total	% Increase in Car & Lights	% Increase in HGV	% Increase in Total Traffic
Hill Road, near Western Access	33	22	55	0.00%	0.00%	0.00%
Unclassified road, near Northern Access (unofficially signed as Bennan's Farm)	52	87	140	203.22%	560.61%	358.09%
B7023, north of Crosshill	1973	514	2487	1.81%	16.83%	4.59%
B7045, north of Grimmet	2116	511	2627	0.84%	16.95%	3.61%
B741, east of Cloyntie	601	124	724	6.20%	149.44%	17.74%
A77, near Nether Auchendrane	12874	1327	14202	0.14%	5.91%	0.65%

Please note minor variances due to rounding may occur.

12.8.20 With regards to the IEMA Guidelines, total traffic movements are not predicted to increase by more than 30 % on all roads within the study area, with the exception of the site's Northern Access.

12.8.21 The table shows that traffic movements will increase by a total of 358.09 % along the Unclassified Road, near the Northern Access for this scenario. Whilst this increase is statistically significant, it is generally caused by the relatively low HGV flows on these two roads which will see an additional 35 Cars and Lights journeys per day and 74 HGV journeys per day. This represents a total of nearly six inbound journeys every hour during construction activities, which is not considered significant in overall traffic levels.

12.8.22 The total HGV traffic along the B741 is anticipated to increase by 149.44 %. This road will also see an additional 74 HGV journeys per day (approx. 37 inbound and 37 outbound) which represents less than four additional inbound HGV journeys every hour, which is not considered significant in overall traffic flow levels.

12.8.23 It should also be noted that the construction phase is transitory in nature and the peak of construction activities is short lived.

Receptor Review

12.8.24 The impact assessment indicates that traffic levels will exceed the 30 % threshold for total traffic within the study area along the site access roads for both of the access scenarios. The 30 % threshold traffic impact for HGV traffic along the B741 will be exceeded if the Northern Access Route is chosen.

12.8.25 A review of the sensitive receptors has been undertaken within the study area. Table 12.7 details the receptors and their sensitivities for use within the following assessment. A justification for the sensitivity has been provided, based upon details contained in Table 12.2.

Table 12.9 – Receptor Sensitivity Summary

Receptor	Sensitivity	Justification
Users of Hill Road (near Western Access)	High	Minor rural road which has not been constructed to accommodate frequent use by HGVs.
Users of Unclassified Road (near Northern Access)	High	Minor rural road which has not been constructed to accommodate frequent use by HGVs.
Users of B7023 and B7045	Medium	B class roads which are capable of regular use by HGV traffic.
Users of B741	Medium	B class roads which are capable of regular use by HGV traffic.
Users of the A77	Low	A-class or trunk roads that can accommodate HGV traffic with no significant traffic calming facilities present.
Residents and communities along B7045 and B741	Negligible	Location includes individual dwellings or scattered settlements with no facilities.
Crosshill Residents	Medium	Intermediate sized rural settlement, containing some community or public facilities and services.
Core Path Users	High	Minor path used by walkers, not constructed to accommodate HGV traffic flows.

12.9 Potential Effects

Construction

12.9.1 An assessment of the likely effects has been undertaken using the previously described thresholds. The results of this are summarised below in Table 12.10. This assessment has assumed that the proposed mitigation measures described in Section 12.7 are in place.

Table 12.10 – Overall Construction Phase Effects Assessment

Receptor	Severance	Driver Delay	Pedestrian Delay	Amenity	Fear	Accidents & Safety

Users of Hill Road (near Western Access)	moderate / minor Not Significant	minor Not Significant	moderate / minor Not Significant	moderate / minor Not Significant	minor Not Significant	minor Not Significant
Users of Unclassified Road (near Northern Access)	moderate / minor Not Significant	minor Not Significant	moderate / minor Not Significant	moderate / minor Not Significant	minor Not Significant	minor Not Significant
Users of B7023 and B704	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant
Users of B741	moderate / minor Not Significant	minor Not Significant	moderate / minor Not Significant	moderate / minor Not Significant	minor Not Significant	minor Not Significant
Users of the A77	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant
Residents and communities along B7045 and B741	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant	minor Not Significant
Crosshill Residents	moderate / minor Not Significant	minor Not Significant	moderate / minor Not Significant	moderate / minor Not Significant	minor Not Significant	minor Not Significant
Core Path Users	moderate / minor Not Significant	minor Not Significant	moderate / minor Not Significant	moderate / minor Not Significant	minor Not Significant	minor Not Significant

12.10 Additional Mitigation and Enhancement

12.10.1 Whilst no further assessment is required following the assessment noted in Section 12.7, further mitigation measures are proposed to further improve the operation of the construction phase and to ensure the highest levels of road safety.

Wear and Tear Agreement

12.10.2 South Ayrshire Council and Ayrshire Roads Alliance may request that an agreement to cover the cost of abnormal wear on its network is made. To this end, the applicant proposes to enter into a Section 96 agreement to cover wear and tear on the public road. Any repair works will be undertaken at the Applicant's expense, rather than by the local authorities. If deemed necessary, any loads above the 3 tonne weight limit on Hill Road will be agreed in advance with the Ayrshire Roads Alliance.

12.10.3 Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route will be recorded to provide a baseline of the condition of the road prior to any construction work commencing. This baseline will inform any change in the road condition during the construction phase. Any necessary repairs will be coordinated with South Ayrshire Council and Ayrshire Roads Alliance. Any damage caused by traffic associated with the Proposed Development during the construction period that would be hazardous to public traffic will be repaired immediately.

12.10.4 Damage to road infrastructure caused directly by construction traffic will be repaired and street furniture that is removed on a temporary basis would be fully reinstated.

12.10.5 There will be a regular road review and any debris and mud will be removed from the carriageway using an onsite road sweeper to ensure road safety for all road users.

Site Access Traffic Management Plan

12.10.6 Additional site-specific measures will be included in the CTMP to further improve road safety across the Study Area. These are:

- A voluntary 15 mph speed limit for HGV traffic associated with the site located when passing through Crosshill village and along sections of the access route which comprises core paths. This will help reduce fear and amenity issues within the settlements and for core path users as well as helping improve road safety; and
- The greater use of on-site borrow pits would result in less HGV movements than the number of HGV movements assumed within this assessment.

12.10.7 These measures will be delivered as part of a wider ranging CTMP, secured by an appropriately worded planning condition.

12.11 Residual Effects

12.11.1 An evaluation of the potential effects of the increase in traffic on the Study Area roads used for construction traffic was undertaken. The summary of this assessment is provided in Table 12.10.

12.11.2 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.

Construction

12.11.3 This section considers the assessment of traffic effects following the incorporation of the mitigation measures identified above. Effects during the operational and decommissioning phases were scoped out of the assessment, which therefore only considers those arising during the construction phase.

12.11.4 Table 12.10 summarises the assessment of residual effects identified in the evaluation with mitigation in place.

12.11.5 It should be borne in mind that the assessment has focussed on the peak in construction traffic activities and that the percentage increases noted are high, given the relatively low level of HGV traffic on the existing network.

12.11.6 The construction period is transitory in nature and all impacts will be short lived and temporary.

12.12 Cumulative Assessment

12.12.1 A review of surrounding wind farm developments has been undertaken. There are no further consented wind farm applications that would be accessed from either the B7023 or B7045.

12.12.2 Nearby consented developments such as Kirk Hill, Benbrack Variation and South Kyle Wind Farms are proposed to be accessed through different access routes and as such their respective construction traffic will have no effect on the study area for Knockcronal.

12.12.3 Should other developments located close to the Proposed Development be consented, any crossover of traffic with the Proposed Development flows would be addressed via a traffic management plan. The inclusion of further traffic flows in the baseline (i.e. including non-consented traffic) will dilute the potential impact that the Proposed Development will have. As such, the approach taken is considered to be a robust assessment.

12.12.4 No other significant planning applications have been consented and as such, there are no committed development flows to be included in the assessment.

12.13 Summary

12.13.1 The Proposed Development will lead to increased traffic volumes on the roads within the study area during the construction phase. These will be of a temporary timescale and transitory in nature.

12.13.2 An assessment of potential effects using IEMA guidelines has been undertaken.

12.13.3 Western Access Route: This determined that prior to the implementation of mitigation, minor, non-significant effects could be expected along Hill Road due to the increase in total traffic.

12.13.4 Northern Access Route: This determined that prior to the implementation of mitigation, minor, non-significant effects could be expected along the Unclassified Road, approximately 2 km to the south-west of Straiton due to the increase in total traffic as well as along the B741 due to the increase in HGV traffic.

12.13.5 The peak traffic flows associated with the Proposed Development's construction phase results in an average of 109 movements per day (55 trips in and 55 trips out), of which 35 would be made by light vehicles and 74 by HGV. All other receptors with the study area have been scoped out of the assessment.

12.13.6 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 and as they will occur during the construction phase only, they are temporary and reversible.

12.13.7 Traffic levels during the operational phase of Proposed Development would be one or two vehicles per week for maintenance purposes. Traffic levels during the decommissioning of the Proposed Development are expected to be lower than during the construction phase as some elements may be left in situ and others broken up onsite.

12.13.8 The movement of AIL traffic would require small scale and temporary remedial works at a number of locations along identified delivery routes.

Table 12.11 – Summary of Effects

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
Construction					
Traffic effects on Hill Road (Western Access)	Moderate / Minor	Adverse	Implementation of Construction Traffic Management Plan, development of Ayrshire Roads Alliance reviewed access junction and detailed access management plan, provision of construction traffic road signage, convoy escorts for AIL movements, provision of localised road improvement works.	Minor Not Significant	Adverse, temporary and reversible
Traffic effects on Unclassified Road (Northern Access)	Moderate / Minor	Adverse	Implementation of Construction Traffic Management Plan, development of ARA reviewed access junction and detailed access management plan, provision of construction traffic road signage, convoy escorts for AIL movements, provision of localised road improvement works.	Minor Not Significant	Adverse, temporary and reversible
Traffic effects on B741	Moderate / Minor	Adverse	Implementation of Construction Traffic Management Plan, provision of construction traffic road signage, convoy escorts for AIL movements, provision of localised road improvement works.	Minor Not Significant	Adverse, temporary and reversible
Crosshill Residents	Moderate / Minor	Adverse	Implementation of Construction Traffic Management Plan and Site Access Traffic Management Plan, provision of construction traffic road signage, convoy	Minor Not Significant	Adverse, temporary and reversible

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
			escorts for AIL movements, provision of localised road improvement works.		
Core path users	Moderate / Minor	Adverse	Implementation of Construction Traffic Management Plan and Core Path Users Plan, provision of construction traffic road signage, convoy escorts for AIL movements, provision of localised road improvement works.	Minor Not Significant	Adverse, temporary and reversible
Operation					
Decommissioning					
Any decommissioning effects would be less that those predicted for the construction phase and have therefore been scoped out of the assessment.					

Table 12.12 – Summary of Cumulative Effects

Receptor	Effect	Cumulative Developments	Significance of Cumulative Effect	
			Significance	Beneficial/ Adverse
None	N/A	N/A	N/A	N/A

12.14 References

Institute of Environmental Assessment (1993) Guidelines for the Environmental Assessment of Road Traffic

Institution of Environmental Management and Assessment (IEMA) (2005) Guidelines for Environmental Impact Assessment

Highways Agency (2008) Table 2.2 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges