



HELIOS RENEWABLE
ENERGY
PROJECT

Preliminary Environmental Information Report

Volume 2: Main Text and Figures

Chapter 10: Transport & Access

October 2023

10. Transport and Access

10.1. Introduction

10.1.1. This chapter of the PEIR reports on the preliminary assessment of the likely significant effects of the Proposed Development on transport and access.

10.1.2. This chapter has been prepared by Transport Planning Associates ('TPA'). TPA is a corporate partner of the Chartered Institution of Highways and Transportation ('CIHT') (refer to Appendix 1.1).

10.1.3. This chapter is supported by the following Figures:

- Figure 10.1 Study Area;
- Figure 10.2 Sensitivity of Links in Study Area;
- Figure 10.3 Public Rights of Way;
- Figure 10.4 Survey Locations; and
- Figure 10.5 Site Access Locations.

10.2. Planning Policy Context

National Planning Policy

10.2.1. National planning policy that has been considered comprises the following designated and draft National Policy Statements ('NPS'):

- Overarching NPS for Energy (EN-1) (July 2011) ('NPS EN-1')¹;
- Revised (Draft) Overarching NPS for Energy (EN-1) (March 2023) ('Revised (Draft) NPS EN-1')²;
- NPS for Renewable Energy Infrastructure (EN-3) (July 2011) ('NPS EN-3')³; and
- Revised (Draft) NPS for Renewable Energy Infrastructure (EN-3) (March 2023)

¹ Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf Accessed June 2023

² Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147380/NPS_EN-1.pdf Accessed June 2023

³ Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf Accessed June 2023

(‘Revised (Draft) NPS EN-3’)⁴.

10.2.2. The relevant text from each NPS, in relation to transport, is summarised below:

NPS EN-1

10.2.3. Section 5.13.2 of the NPS EN-1 states that *‘the consideration and mitigation of transport impacts is an essential part of Government’s wider policy objectives for sustainable development’*.

10.2.4. Paragraph 5.13.3 of the NPS EN-1 states that *‘if a project is likely to have significant transport implications, the applicant’s ES should include a transport assessment’*.

10.2.5. Paragraph 5.13.6 on the NPS EN-1 states that *‘A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the IPC should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development’*.

Revised (Draft) NPS EN-1

10.2.6. Section 5.14 of the Revised (Draft) NPS EN-1 relates to the traffic and transport effects of electricity network infrastructure. It states that:

‘the transport of materials, goods and personnel to and from a development during all project phases can have a variety of impacts on the surrounding transport infrastructure and potentially on connecting transport networks, for example through increased congestion. Impacts may include economic, social and environmental effects. Environmental impacts may result particularly from increases in noise and emissions from road transport. Disturbance caused by traffic and abnormal loads generated during the construction phase will depend on the scale and type of the proposal’.

10.2.7. For assessment purposes, the Revised (Draft) NPS EN-1 states that:

‘if a project is likely to have significant transport implications, the applicant’s ES (see Section 4.2) should include a transport assessment, using the NATA/WebTAG127 methodology stipulated in Department for Transport DfT guidance, or any successor to such methodology. Applicants should consult

⁴ Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147382/NPS_EN-3.pdf
Accessed June 2023

the Highways England [now known as 'National Highways'] and Highways Authorities as appropriate on the assessment and mitigation'.

10.2.8. With regards to decision-making, the Revised (Draft) NPS EN-1 states that:

'The Secretary of State should only consider preventing or refusing development on highways grounds if there would be an unacceptable impact on highway safety, or residual cumulative impacts on the road network would be severe'.

NPS EN-3

10.2.9. NPS EN-3 does not include specific detail in relation to solar photovoltaic ('PV') developments; however, guidance on transport and access can be applied to solar farms from advice on on-shore wind farms. This includes ensuring that access routes to the site for both the construction and operation of the proposed renewable energy development are suitable, particularly so for the construction considering there will be a greater number of vehicles associated with the construction than the operation of the development (section 2.7.10).

10.2.10. NPS EN-3 further expands upon the transport impacts covered in NPS EN-1 in relation to on-shore wind farms advising assessment of various potential routes to serve as the delivery routes to the site and that the assigned route is considered the most appropriate (section 2.7.75). Additionally, considering renewable energy sites require delivery of large components, any sections of the route that may require modification should be identified and potential effects are to be assessed as part of the ES.

10.2.11. Additionally, assessment of the cumulative schemes surrounding the site is required, given that the location of many renewable energy developments can often share the same delivery route or location. NPS EN-3 states that *'where a cumulative impact is likely then a cumulative transport assessment should form part of the EIA to consider the impacts of abnormal traffic movements relating to the project in question in combination with those from any other development'* (section 2.7.77). Although the above guidance relates to onshore wind farms, this assessment also forms part of the transport and access ES chapter for solar farm developments.

10.2.12. With regard to the mitigation of transport impacts, it states that:

'Once consent for a scheme has been granted, applicants should liaise with

the relevant local highway authority (or other coordinating body) regarding the start of construction and the broad timing of deliveries. It may be necessary for an applicant to agree a planning obligation to secure appropriate measures.’ (section 2.7.82)

Revised (Draft) NPS EN-3

10.2.13. Section 3.10.111 of the Revised (Draft) NPS EN-3 relates to construction traffic impacts from solar PV developments. It states that:

‘Modern solar farms are large sites that are mainly comprised of small structures that can be transported separately and constructed on-site with developers designating a compound on-site for the delivery and assemblage of the necessary components.’

10.2.14. Paragraph 3.10.112 states:

‘Many solar farms will be sited in areas served by a minor road network. Public perception of the construction phase of solar farm will derive mainly from the effects of traffic movements, which is likely to involve smaller vehicles than typical onshore energy infrastructure but may be more voluminous’.

10.2.15. For assessment purposes, the Revised (Draft) NPS EN-3 states that:

‘Applicants should assess the various potential routes to the site for delivery of materials and components where the source of the materials is known at the time of the application and select the route that is the most appropriate. (paragraph 3.10.114)

...

Applicants should ensure all sections of roads and bridges on the proposed delivery route can accommodate the weight and volume of the loads and width of vehicles. Although unlikely, where modifications to roads and/or bridges are required, these should be identified, and potential effects addressed in the ES. (paragraph 3.10.116)

Where a cumulative impact is likely because multiple energy infrastructure developments are proposing to use a common port and/or access route and pass through the same towns and villages, applicants should include a

cumulative transport assessment as part of the ES. This should consider the impacts of abnormal traffic movements relating to the project in question in combination with those from any other relevant development. Consultation with the relevant local highways authorities is likely to be necessary’.
(paragraph 3.10.117)

10.2.16. In terms of mitigation, the Revised (Draft) NPS EN-3 sets out the following:

‘In some cases, the local highways authority may request that the Secretary of State impose controls on the number of vehicle movements to and from the solar farm site in a specified period during its construction and, possibly, on the routing of such movements particularly by heavy vehicles’;
(paragraph 3.10.130)

‘Where the Secretary of State agrees that this is necessary, requirements could be imposed on development consent’; (paragraph 3.10.131)

‘Where cumulative effects on the local road network or residential amenity are predicted from multiple solar farm developments, it may be appropriate for applicants for various projects to work together to ensure that the number of abnormal loads and deliveries are minimised, and the timings of deliveries are managed and coordinated to ensure that disruption to residents and other highway users is reasonably minimised’; (paragraph 3.10.132)

‘It may also be appropriate for the highway authority to set limits for and coordinate these deliveries through active management of the delivery schedules through the abnormal load approval process’; (paragraph 3.10.133)

‘Once consent for a scheme has been granted, applicants should liaise with the relevant local highway authority (or other coordinating body) regarding the start of construction and the broad timing of deliveries. Applicants may need to agree a planning obligation to secure appropriate measures, including restoration of roads and verges’; (paragraph 3.10.134) and

‘Further it may be appropriate for any non-permanent highway improvements carried out for the development (such as temporary road widening) to be made available for use by other subsequent solar farm developments’.
(paragraph 3.10.135)

10.2.17. With regards to operational impacts from solar PV developments, the Revised (Draft) NPS EN-3 states that:

‘Once solar farms are in operation, traffic movements to and from the site are generally very light, in some instances as little as a few visits each month by a light commercial vehicle or car. Should there be a need to replace machine components, this may generate heavier commercial vehicle movements, but these are likely to be infrequent’; (paragraph 3.10.152)

...

‘The Secretary of State is unlikely to give any more than limited weight to traffic and transport noise and vibration impacts from the operational phase of a project’. (paragraph 3.10.153)

National Planning Policy Framework (2021)⁵

10.2.18. Paragraph 111 of the National Planning Policy Framework (‘NPPF’) states that:

‘Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe’.

10.2.19. Paragraph 113 of the NPPF states:

‘All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed’.

Local Planning Policy

10.2.20. In April 2023, North Yorkshire Council (‘NYC’) became the administrative authority in which the Site is located, following its creation as a unitary authority by combining several district councils, including Selby District Council (‘SDC’), the administrative area within which the Site had previously been located. The planning policy of SDC is still relevant to the Proposed Development. However, no policies are specific to

⁵ Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

Accessed June 2023

transport to inform this assessment.

*Selby District Council Core Strategy (2013)*⁶

10.2.21. One of the core objectives of the SDC Core Strategy (2013) is to focus new development in the ‘*most sustainable locations, where reasonable public transport exists, and taking full account of local needs and environmental, social and economic constraints*’ (Objective 3 of paragraph 3.5).

10.2.22. Policy SP17 directly relates to low-carbon and renewable energy developments stating that the council will ‘*consider identifying ‘suitable areas’ for renewable and low carbon energy sources and supporting infrastructure*’. Development proposals seeking to implement a new source of renewable energy are required to meet several criteria:

- Are designed and located to protect the environment and local amenity; or
- Can demonstrate that the wider environmental, economic and social benefits outweigh any harm caused to the environment or local amenity; and
- Impacts on local communities are minimised.

*Draft Selby District Council Local Plan (Public Consultation Version 2022)*⁷

10.2.23. Policy SG10 of the draft consultation version of the SDC Local Plan (2022) states that appropriate weight, consideration and mitigation needs to be given to the ‘*Impact on Infrastructure and Transport Networks including highways, rail, aviation, operations, navigational systems, PROW, television, radio, telecommunications systems*’.

10.3. Assessment Methodology

10.3.1. This section sets out the assessment methodology. It sets out the study area, types of effects that will be assessed, the significance criteria and any limitations to the assessment.

⁶ Available at: [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010120/EN010120-000986-D2_North%20Yorkshire%20County%20Council%20and%20Selby%20District%20Council_Responses%20to%20the%20Examining%20Authority%E2%80%99s%20written%20questions%20\(ExQ1\)%20-%20Selby%20District%20Core%20Strategy%20October%202013.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010120/EN010120-000986-D2_North%20Yorkshire%20County%20Council%20and%20Selby%20District%20Council_Responses%20to%20the%20Examining%20Authority%E2%80%99s%20written%20questions%20(ExQ1)%20-%20Selby%20District%20Core%20Strategy%20October%202013.pdf) Accessed June 2023

⁷ Available at: <https://democracy.selby.gov.uk/documents/s16614/Appendix%201%20Publication%20Local%20Plan.pdf> Accessed June 2023

10.3.2. This methodology has been prepared with consideration to *'Guidance on Transport Assessments'*, published by the Department for Transport ('DfT') in March 2007 (which is now archived but still considered relevant), *'Guidelines for the Environmental Assessment for Road Traffic'*⁸ (the 'IEMA Guidelines'), published by the Institute of Environmental Management and Assessment ('IEMA') and the *'Design Manual for Roads and Bridges'* ('DMRB'), published by National Highways.

Study Area

10.3.3. The study area (refer to Figure 10.1 Study Area) for this assessment has been identified to cover the local roads which comprise the construction and decommissioning vehicle routes to the Site. This is the area within which transport and access significant effects are likely to occur.

10.3.4. The roads included within this study area are as follows:

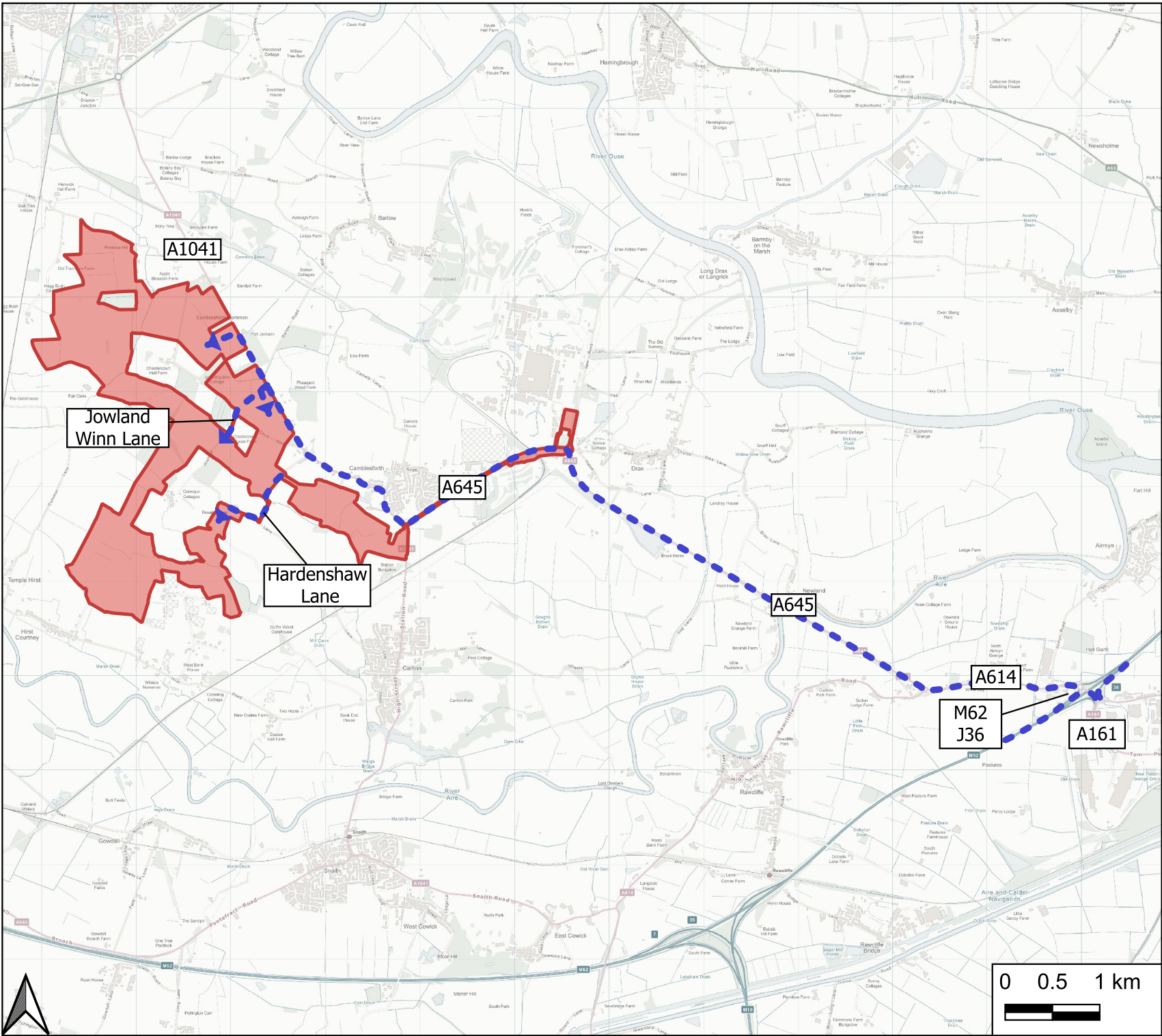
- A614;
- A645;
- A1041 (Bawtry Road);
- Hardenshaw Lane; and
- Jowland Winn Lane.

10.3.5. Two alternative routes were considered for the routing of construction vehicles:

- The first would route vehicles from Junction 37 of the M62 to the Site via the A63, A19 and A1041. Vehicles would then arrive at the Site from the north. This route was not taken forward for assessment as it is less direct and more convoluted than the proposed route that is assessed; and
- The second route would bring vehicles off the M62 at Junction 34. Vehicles would travel along the A19, A63 and A1041, to access the Site from the north. This route was not taken forward as it is less direct than the proposed route, and routes through more settlements, including Eggborough, Chapel Haddlesey and Burn.

⁸ Institute of Environmental Assessment (1993), *Guidance Notes No.1, Guidelines for the Environmental Assessment of Road Traffic*

Figure 10.1 Study Area



Key

- Site Boundary
- ▶ Study Area



Project Title		
Helios Renewable Energy Project		
Drawing Title		
Study Area		
DRWG No	Figure 10.1	Rev
Drawn by	AC	Checked by
Scale	NTS	Date
		RR
		22/08/2023

Sources of Information

- 10.3.6. The following sources of information have been used in this assessment of likely significant transport and access effects resulting from the Proposed Development:
- Automatic Traffic Count ('ATC') surveys;
 - DfT 'Road Traffic Statistics' Database⁹;
 - Personal Injury Accident ('PIA') Data, obtained from North Yorkshire County Council ('NYCC') (now NYC);
 - Highway boundary information obtained from NYCC;
 - Ordnance Survey mapping; and
 - Topographical surveys.

Types of Effect

- 10.3.7. In accordance with the IEMA Guidelines, which comprises best practice guidance for the assessment of the environmental effects of road traffic from a proposed development, the following criteria has been considered in this assessment:
- Accidents and safety;
 - Severance;
 - Driver delay;
 - Pedestrian delay (including cyclists and equestrians);
 - Pedestrian amenity (including cyclists and equestrians); and
 - Hazardous loads.
- 10.3.8. A description of each criterion is provided below.

Accidents and Safety

- 10.3.9. The IEMA Guidelines do not include any definition in relation to the assessment of effects on accidents and safety. They advise that professional judgement should be

⁹ Available at: <https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints> Accessed June 2023

used by the assessor to assess the implications of local circumstances, or factors which may increase or decrease the risk of accidents.

Severance

- 10.3.10. The IEMA Guidelines define severance as *‘the perceived division that can occur within a community when it becomes separated by a major traffic artery’* (paragraph 4.27) that *‘separates people from places’*, for example, difficulties crossing existing roads or the physical barrier of the road itself.
- 10.3.11. There are no predictive formulae which give simple relationships between traffic factors and levels of significance. Nevertheless, there are a range of indicators for determining the significance of the relief from severance. The IEMA Guidelines suggest that *‘changes in traffic flow of 30%, 60% and 90% are regarded as producing slight, moderate and substantial changes in severance respectively’* (paragraph 4.31). The guidance also suggests that *‘marginal changes in traffic flows are, by themselves, unlikely to create or remove severance’*.

Driver Delay

- 10.3.12. The IEMA Guidelines state that *‘delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system’* (paragraph 4.34). As such, the impact of a proposed development on driver delay is typically considered in relation to background traffic. Junction assessment modelling can be used to estimate increased vehicle delays at junctions, if necessary.

Pedestrian Delay (including cyclists and equestrians)

- 10.3.13. The IEMA Guidelines state that *‘changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to increases in delay’* (paragraph 4.35). Due to the rural nature of solar farm developments, pedestrian delay could also occur on public rights of way, where crossed by an access track. There are a range of local factors that affect pedestrian (and cyclist) delay, including the level of pedestrian (and cyclist/equestrian) activity, visibility and general physical conditions of the site. However, the IEMA Guidelines do not set out thresholds for judging the significance

of changes in levels of delay and suggest that the assessor uses their judgement to determine whether pedestrian delay is a significant impact.

Pedestrian Amenity (including cyclists and equestrians)

10.3.14. Pedestrian (and cyclist/equestrian) amenity is broadly described in the IEMA Guidelines as *'the relative pleasantness of a journey'* (paragraph 4.39) and can be affected by traffic flow, composition and footway widths. Users of public rights of way ('PRoW') may also be affected by construction traffic. This definition includes pedestrian (and cyclist/ equestrian) fear and intimidation and can be considered a much broader category when considering the overall relationship between pedestrians (and cyclists/equestrians) and traffic. The IEMA Guidelines suggest that a threshold for judging this would be *'where the traffic flows (or its lorry component) is halved or doubled'* (paragraph 4.39) compared to the baseline.

Hazardous Loads

- 10.3.15. The IEMA Guidelines state that some developments include hazardous loads, and that this should be recognised by the assessment.
- 10.3.16. Some deliveries to the Site during the construction phase will be regarded as 'hazardous loads'. These include the deliveries of lithium-ion batteries, transformer oil and insulation gas. All applicable regulations for the movement of hazardous loads will be followed, and the appropriate documentation will be obtained.
- 10.3.17. In addition, there will be abnormal loads to transport the transformers to the substation. An abnormal load is one where the vehicle exceeds 44 tonnes, the width is more than 2.9m or the length is more than 18.65m. It is not considered hazardous.

Assessment of Significance

10.3.18. The assessment of the Proposed Development's potentially significant effects has taken into account the construction phase, operational phase and the decommissioning phase. The effects for the decommissioning phase are likely to be equivalent to, and no worse than, the construction phase. This is due to best practice changing over time. Whilst the precise decommissioning methodology is not currently known, it will accord with the requirements of NYC and be in line with the

Decommissioning Environmental Management Plan ('DEMP'), to be secured by DCO requirement. The significance level attributed to each effect (set out above) has been assessed based on the sensitivity of the affected receptor to change, and the magnitude of change as a result of the Proposed Development.

Sensitivity of Receptor and Magnitude of Change

10.3.19. Table 10.1 provides definitions to determine the sensitivity of a receptor.

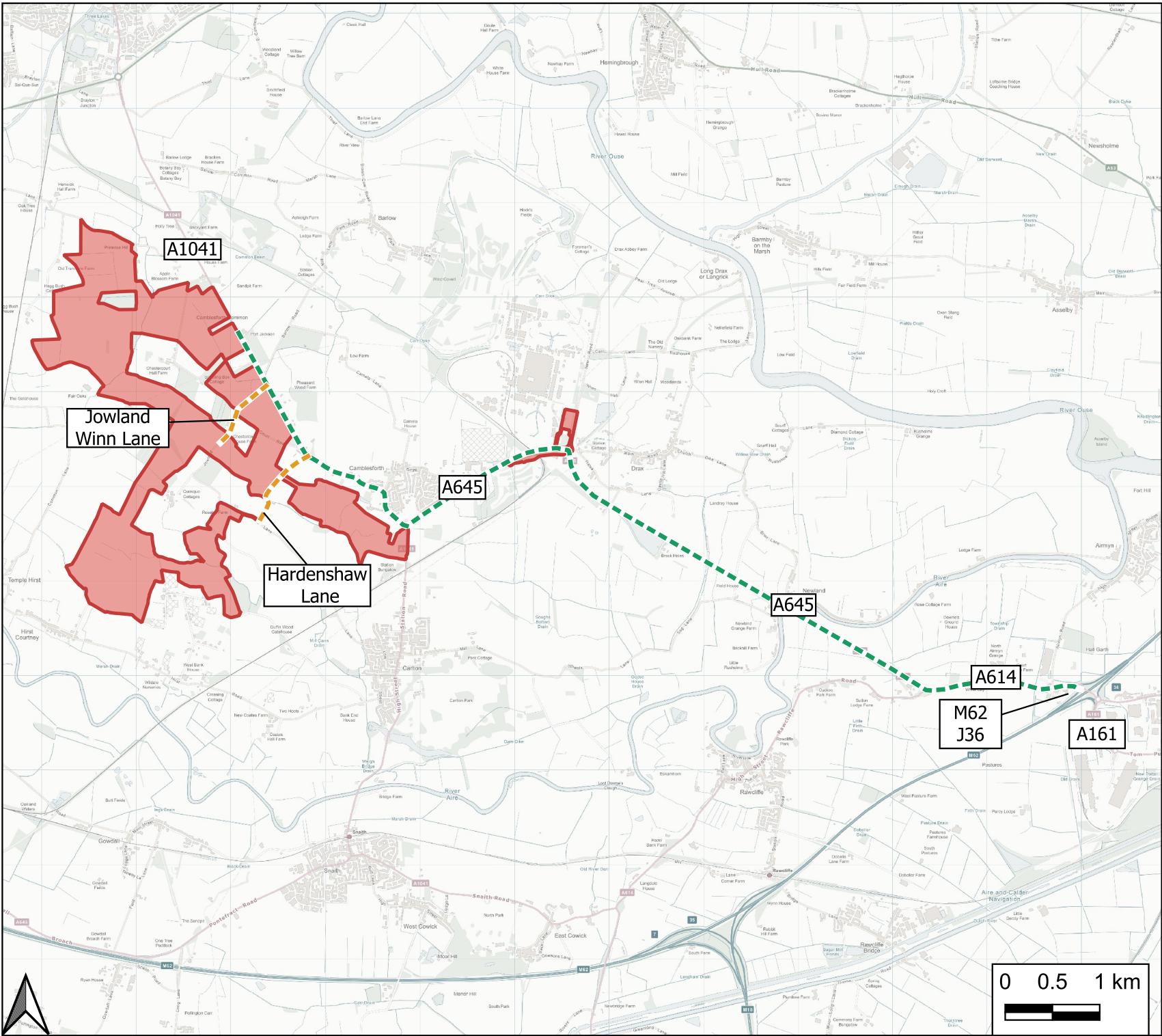
Table 10.1: Sensitivity/Importance of Identified Receptor

Sensitivity	Definition
High	Receptors of greatest sensitivity to traffic flows, such as schools, playgrounds, accident blackspots, retirement homes, areas with no footways with high pedestrian footfall, congested areas
Medium	Receptors with some sensitivity to traffic flow, such as conservation areas, listed buildings, tourist attractions, and residential areas
Low	Receptors with low sensitivity to traffic flows, and those distant from affected roads
Negligible	Receptors with no material sensitivity to traffic flows

10.3.20. The study area, as shown in Figure 10.1, mainly comprises A-class roads. There are few receptors on the A-class roads (such as schools, retirement homes, high pedestrian footfall), which are considered to have a high sensitivity to changes in traffic flows. Therefore, these roads are classified as having a low sensitivity. There are also two unclassified roads within the study area that connect the various parcels of land (Hardenshaw Lane and Jowland Winn Lane). Whilst there are no sensitive receptors on these lanes, that are more sensitive to changes in traffic. Therefore, these lanes are classified as having medium sensitivity.

10.3.21. The sensitivity of receptors along links within the study area are summarised in Figure 10.2 Sensitivity of Links/ Receptors within the Study Area.

Figure 10.2 Sensitivity of Links in Study Area



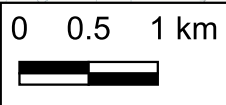
- Key**
- Site Boundary
 - Sensitivity**
 - Low
 - Medium



Project Title
Helios Renewable Energy Project

Drawing Title
Sensitivity

DRWG No	Figure 10.2	Rev	-	SHT no	-
Drawn by	AC	Checked by	RR		
Scale	NTS	Date	22/08/2023		



10.3.22. The IEMA Guidelines set out two rules which have been used as threshold impacts to define the scale and extent of the assessment, as follows:

- Rule 1: Include highway links where traffic flows will increase by more than 30% (or where the number of heavy goods vehicles ('HGV') will increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

10.3.23. It is notable that, on roads where baseline traffic flows are low (such as on Hardenshaw Lane and Jowland Winn Lane), any increase in traffic flow may result in a predicted increase that would be higher than the two rules set out in the IEMA Guidelines. However, it is important to consider any overall increase in road traffic in relation to the capacity of the road.

10.3.24. The IEMA Guidelines state at paragraph 4.5:

'For many effects there are no simple rules or formulae which define the thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed up by data or quantified information wherever possible' and 'those preparing the Environmental Statement will need to make it clear how they have defined whether a change is considered significant or not'.

10.3.25. The IEMA Guidelines identify general thresholds for traffic flow increases of 10% and 30%. Where the predicted increase in traffic/ HGV flow is lower than these thresholds, then the significance of the effects should be considered to be minor or not significant and further detailed assessment is not required. However, to ensure a robust assessment of the increase in traffic flows in environmental terms, Table 10.2 has been used to help determine the magnitude of change.

Table 10.2: Magnitude of Change

Magnitude	Definition
High	Changes to peak/24-hour ('hr') traffic within the study area by 30% or more.
Medium	Changes to peak/24hr traffic within the study area by between 10% and 30%.
Low	Changes to peak/24hr traffic within the study area by between 5% and 10%.
Negligible	Changes to peak/24hr traffic within the study area up to 5%.

Magnitude	Definition
Neutral	No Change (+/- daily variation).

Significance of Effect

10.3.26. The magnitude of change and receptor sensitivity have been compared to determine the overall significance of effects. This is shown in Table 10.3.

10.3.27. There are four categories demonstrating the significance of the effect. comprise:

- Negligible – Very little change from baseline conditions;
- Minor Beneficial / Adverse – A minor shift away from baseline conditions;
- Moderate Beneficial / Adverse – A material shift away from the baseline conditions; and
- Major Beneficial / Adverse – Substantial alteration to baseline conditions.

Table 10.3: Significance of Potential Effects

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

10.3.28. Identified effects that are moderate or major are considered to be ‘significant’ in EIA terms.

10.3.29. Whilst this is a useful guideline, the effects do need to be reviewed using professional judgement in the context of baseline traffic flows. Within the study area, some roads are rural in nature with low baseline traffic flows. In these locations, the addition of any traffic could result in high percentage changes (over 100% in places). However, as the baseline flows are low, the effects could still be considered minor or negligible and therefore not significant.

10.3.30. The effects can be temporary or permanent, and short, medium or long term in duration. The duration of these effects is considered to be as follows:

- A short-term effect – an effect that will be experienced for up to one years;
- A medium-term effect – an effect that will be experienced for one to five years; and

- A long-term effect – an effect that will be experienced for five years or longer.

Limitations and Assumptions

- 10.3.31. Several assumptions have been made when forecasting the traffic generation of the Proposed Development, both during construction and operation (it is predicted that decommissioning traffic generation will not exceed that of construction). These forecasts have been developed by the Applicant and the assessor based on professional judgement and derived from experience with other developments similar in size, scale and nature to the Proposed Development. Therefore, they are considered to represent a realistic estimation of traffic generation for the Proposed Development.
- 10.3.32. On roads where baseline traffic flows are low (such as on Hardenshaw Lane and Jowland Winn Lane), any increase in traffic flow may result in a predicted increase that would be higher than the two rules set out in the IEMA Guidelines. However, it is important to consider any overall increase in road traffic in relation to the capacity of the road.
- 10.3.33. Notwithstanding the limitations and assumptions referenced, it is considered that the methodology used and the identification of effects from the Proposed Development in this chapter are robust.

Consultation

- 10.3.34. An EIA Scoping Report was submitted to the Planning Inspectorate ('PINS') on 7th June 2022 (Appendix 2.1 of the PEIR). PINS adopted its EIA Scoping Opinion on 14th July 2022 (Appendix 2.2 of the PEIR). Separately, a Transport Scoping Note has been submitted to NYC and a virtual meeting was held with a Transport and Development Engineer on 18th August 2022.
- 10.3.35. Table 10.4 provides a summary of the transport and access related comments made by relevant stakeholders and how these responses have been addressed in this PEIR.

Table 10.4: Summary of Consultation

Consultee	Type and Date	Summary of Response	Response to Consultee
PINS	EIA Scoping Opinion (4 th July 2022)	<i>'Operational effects are proposed to be scoped out on the basis that the traffic movements associated with maintenance activities will be minimal (up to 10 two-way movements per month). On the basis of the low anticipated operational traffic volumes, the Inspectorate is content to scope this matter out from further assessment provided the ES confirms the type and number of maintenance vehicles and the likely operational traffic flows'.</i>	Refer to paragraph 10.6.51 which confirms operational traffic will not exceed 10 two-way movements per month.
		<i>'The Scoping Report does not reference providing a transport assessment. The ES should include a Transport Assessment that considers the impacts of the development on access and accessibility, sustainability and the free-flow of traffic to inform the assessment of significant effects'.</i>	A Transport Assessment will be prepared for the ES and submitted with the application for development consent.
		<i>'Access routes to the site are not currently specified and are proposed to be set out in a construction access strategy. Mitigation measures set out in Scoping Report paragraph 10.6.22 do not include utilising existing accesses where possible. The Proposed Development should utilise existing accesses where possible and where new accesses are proposed this approach should be justified'.</i>	Refer to paragraph 10.6.3 for confirmation of access points.
		<i>'No surveys have been undertaken or are proposed to inform the baseline use of the PRow that are existing on site. There is also no indication as to whether these PRow will be retained or if there is scope to alter them. The ES should appropriately characterise the baseline use of the affected PRow and describe</i>	Refer to paragraph 10.4.5 for confirmation of any PRow that will be affected due to the Proposed Development.

Consultee	Type and Date	Summary of Response	Response to Consultee
		<p><i>any alterations to PRow during construction/decommissioning. Effort should be made to retain and enhance PRow where possible. Where this has potential to influence other assessments, this should be cross referenced e.g. Landscape and Views’.</i></p>	
<p>Jacobs Systra Joint Venture (‘JSJV’) on behalf of National Highways</p>	<p>EIA Scoping Response (30th June 2022)</p>	<p><i>‘Stantec state that a Construction Traffic Management Plan [CTMP] will be prepared and will form a technical appendix to the ES Transport and Access chapter.</i></p> <p><i>JSJV welcomes this approach and would note that the CTMP should be provided to National Highways for review and agreement in writing prior to commencement of the development’.</i></p>	<p>Refer to paragraph Error! Reference source not found. for confirmation that a Construction Traffic Management Plan (‘CTMP’) will be prepared and will be provided to National Highways prior to commencement of the construction of the Proposed Development.</p>
		<p><i>‘The ES Transport Chapter should be informed by a robust Transport Assessment. National Highways acknowledge that, during the operational phase, there is likely to be a limited number of two-way trips generated, particularly in the peak hour periods.</i></p> <p><i>National Highways would reiterate, nonetheless, that given the nature and scale of development and its proximity to the SRN, the planning application should be accompanied by a TA and this should consider the impacts of the development on access and accessibility, sustainability and the free flow of traffic’.</i></p>	<p>A Transport Assessment will be prepared for the ES in support of the application for development consent.</p>

Consultee	Type and Date	Summary of Response	Response to Consultee
		<i>'Whilst traffic generation is likely to be minimal, the Applicant should consider the need for a Travel Plan. National Highways supports and requires the preparation and implementation of Travel Plans to limit the volume of private vehicle trips to and from developments and to promote sustainable modes of travel'.</i>	A Travel Plan will be prepared for the ES in support of the application for development consent.
Network Rail	EIA Scoping Response (4 th July 2022)	<i>'[The Application] should also include a Transport Assessment to identify any HGV traffic/haulage routes associated with the construction and operation of the site that may utilise railway assets such as bridges and level crossings during the construction and operation of the site'.</i>	A Transport Assessment will be prepared for the ES in support of the application for development consent..
NYCC	EIA Scoping Response (4 th July 2022)	<i>'We have read through the report and are comfortable that the items identified within the report are acceptable. Included is a statement regarding the committed sites so that is very encouraging. I note the reference to glare from the site. Solar panels are likely to give some glare but at this point we are unsure how we would deal with this. I assume they will erect fencing to protect road users so we look forward to further consultation'.</i>	Refer to Appendix 2.5 Glint and Glare Assessment of the PEIR for further information.
UK Health Security Agency	EIA Scoping Response (4 th July 2022)	<i>'The traffic and transport assessment should assess the impacts on cyclists and horse riders, including usage data'.</i>	Refer to paragraph 10.6.46 for the assessment of impacts on cyclists and horse riders, which confirms the impact to be not significant.

10.4. Baseline Conditions

The Site and Context

- 10.4.1. The Site is located to the west of Drax Power Station. Within the vicinity of the Site are the A1041 to the north and east, Hirst Road to the south and the East Coast Main Railway Line to the west. The land within the Site is connected via several unclassified roads, which are currently used primarily for the movement of agricultural vehicles.
- 10.4.2. As shown in Figure 3.2 Parameter Plan of the PEIR, the north-eastern part of the Site contains the National Grid Substation at Drax Power Station and the Proposed Development includes an Underground Cable Corridor for the connection to the grid.
- 10.4.3. A full description of the Site and the Proposed Development is provided in Chapter 3 Site and Development Description of the PEIR.

Walking and Cycling

- 10.4.4. The pedestrian and cycling facilities within the study area are as summarised below:
- Goole Interchange/ A614: The Goole Interchange features a shared pedestrian and cycle way alongside the westbound carriageway, which develops into a footway on the A614. This continues onto the A614 until the Glew services roundabout, where the footway/cycleway crosses onto the opposite side of the carriageway. After a short section, the path becomes a footway only, which continues along the whole of the A614 until the A645 roundabout;
 - There are no pedestrian or cyclist facilities on the A645 between the A614 roundabout and A645/ Main Road/New Road (Drax Power Station) Roundabout;
 - After the A645/ Main Road/ New Road roundabout, footways are present along both sides of the carriageway for 500m until the westbound footway ends. The eastbound footway continues and links onto the A1041 at the roundabout. There are no cycling facilities on this section of the network;
 - On the A1041, the footway continues to route along the south-eastbound side of the A1041's carriageway. However, from the 'Council Houses' bus stop, the footway ends on the eastbound side and resumes on the westbound side. The westbound footway continues to route along the A1041 until ending past the Black Dog Inn. The footways do not resume along the A1041 within the vicinity of the Site past this point; and

- There is limited dedicated cycle infrastructure surrounding the Site within the study area. However, the National Cycle Network Route 62 does operate alongside Hirst Road, to the south of the Site, and along Common Lane to the east of the Site. National Cycle Network Route 62 connects Fleetwood in Lancashire with Selby in North Yorkshire. It forms the west and central sections of the Trans Pennine Trail, which is a long-distance path running from coast to coast across northern England.

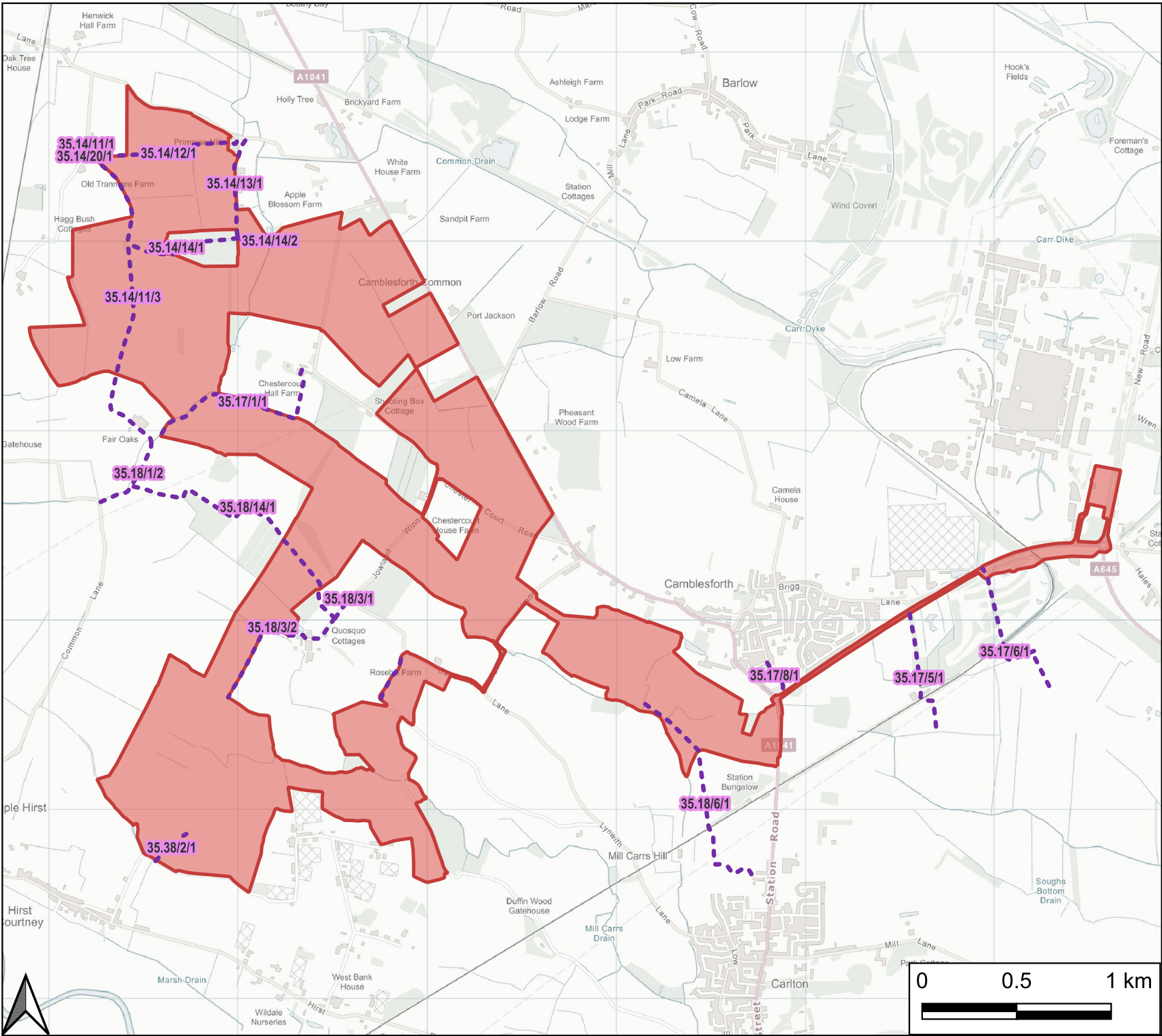
Public Rights of Way

- 10.4.5. There are several PRowWs that run through or nearby the Site. The PRowWs are summarised in Table 10.5 and shown in Figure 10.3 Public Rights of Way.

Table 10.5: Public Rights of Way

PROW Ref	Approximate Route
35.14/8/3	This PRow routes from Hagg Bush House in a south-easterly direction to connect onto 35.14/9/3 to the west of Fair Oaks.
35.14/9/3	This PRow routes east-west from 35.14/9/3 to 35.14/11/3.
35.14/11/3	This PRow routes from the track by Fair Oaks up to where the track joins onto Hagg Bush Lane in the north.
35.14/12/1	This PRow connects from 35.14/11/3 near Hagg Bush Lane and routes east and up through Primrose Hill to end on Common Lane.
35.14/13/1	Extends from Common Lane, approximately 50m east of 35.14/12/1, and routes south to the copse of woods to the south of Apple Blossom Farm.
35.14/14/1	Routes through the copse of woods, connecting between 35.14/13/1 and 35.14/11/3.
35.14/14/2	This PRow connects from 35.14/13/1, routes east and exits by the lake, approximately 200m east of the copse of woods.
35.17/1/1	This PRow routes from the brook by Fair Oaks for approximately 400m before heading east and then north to connect onto Chestercourt Lane from Chestercourt Hall Farm.
35.18/1/2	This PRow connects from Common Lane and connects onto 35.14/11/3 by Fair Oaks.
35.18/3/2	This PRow begins on Brick Lands Lane, approximately 1km north of Old Lane and routes northeast through Quosquo Cottages and onto Jowland Winn Lane.
35.18/6/1	This PRow routes from Camilla Close to Claypit Lane (track) in a north-westerly direction.
35.18/13/1	This bridleway follows the track from Race Lane to Sandwith Lane in a north-south alignment.
35.18/14/1	This PRow extends between Jowland Winn Lane, where 35.18/3/2 originates and extends northwest to connect onto 35.18/1/2.
35.38/2/1	This PRow connects between Old Lane and Brick Lands Lane cutting through the field.

Figure 10.3 Public Rights of Way



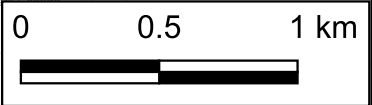
- Key**
- Site Boundary
 - Public Rights of Way



Project Title
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Drawing Title
Public Rights of Way

DRWG No	Figure 10.3	Rev	-	Sht no	-
Drawn by	AC	Checked by	RR		
Scale	NTS	Date	22/08/2023		



Public Transport

Bus

- 10.4.6. The nearest bus stops with waiting facilities are located on the A1041. The east bound bus stop situated 900m to the east of the nearest access point on Hardenshaw Lane, referred to as 'Council Houses', features a dedicated bus layby and bus flag. The westbound stop situated 850m east of the Hardenshaw Lane access, referred to as 'Poplar Tree Farm', features a sheltered seating area with bus flag and timetable information. The stops are served by three services, these are summarised in Table 10.6.

Table 10.6: Summary of Existing Bus Services

Route Number	Approximate Frequency	Route Summary
2	One service per day	Newport – Howden – Camblesforth – Selby
8	Every 120 minutes	Drax – Camblesforth – Brayton – Selby
401	Every 60-90 minutes	Goole – Howden – Camblesforth – Selby

Rail

- 10.4.7. Snaith Railway Station is located approximately 4.8km south of Camblesforth. The railway station operates on the Pontefract Line, which runs between Leeds Railway Station to the west and Goole Railway Station to the east. There are only two services per day in each direction for Snaith Railway Station.
- 10.4.8. Selby Railway Station is located approximately 8km north of Camblesforth. Train destinations include York, Hull, London Kings Cross, and Liverpool Lime Street with services operating from the station at an approximate frequency of between 20 and 60 minutes.

Local Highway Network

- 10.4.9. An overview of the local highway network within the study area is provided below.

A614

- 10.4.10. The A614 is a two-way single carriageway road subject to a 60 miles per hour (mph) speed limit. The road extends from Junction 36 of the M62 motorway (Goole Interchange) and routes east where it joins the A645 via a three-arm roundabout.

A645

10.4.11. The A645 is a two-way single carriageway road subject to a 60-mph speed limit. The road routes between the A614 and Drax before continuing to the south of Camblesforth to connect to the A1041.

A1041

10.4.12. The A1041 is a two-way single carriageway road subject to a 60-mph speed limit. The road connects the village of Snaith, to the south of the Site, to Selby, to the north of the Site. On-Site observations and traffic surveys indicate that the A1041 within the vicinity of the Site is already well used by HGVs.

10.4.13. The A1041 forms 'Station Road' and 'High Street' within the village of Carlton, to the south of the Site. On these parts of the A1401, the speed limit reduces to 30mph. There are a number of side junctions into local residential streets, and footways on both sides of the road.

Unclassified Roads

10.4.14. A number of unclassified rural roads and private lanes are located within the Site. These have low existing traffic flows and are largely used for access to the surrounding agricultural fields, including within the Site.

Traffic Flows

10.4.15. ATC surveys have been undertaken for all roads within the study area. These were undertaken between 4th March 2022 and 10th March 2022. In addition, DfT data¹⁰ has been reviewed for the A614. The average weekday two-way traffic count for the ATC survey locations within the vicinity of the Site are set out in Table 10.7. The ATC survey locations are shown in Figure 10.4 Survey Locations.

Table 10.7: Baseline Traffic Flows – Average Day (24 HR), Two-Way

ATC Survey Location	Link	Sensitivity	Total Vehicles	%HGV¹¹
1	A614	Low	12,171	8%

¹⁰ Department for Transport Road Traffic Statistics, Available at: <https://roadtraffic.dft.gov.uk/#/6/55.254/-6.053/basemap-regions-countpoints> Accessed in April 2022

¹¹ A HGV refers to any Heavy Goods Vehicle that has a gross weight over 3.5 tonnes. 'A Simplified Guide to Lorry Types and Weights' Department for Transport, October 2003.

ATC Survey Location	Link	Sensitivity	Total Vehicles	%HGV ¹¹
2	A645	Low	7,382	8%
3	A1041 (Bawtry Road)	Low	12,207	6%
4	Jowland Winn Lane	Medium	50	6%
5	Hardenshaw Lane	Medium	104	2%

10.4.16. The traffic flows in Table 14.7 show that HGVs are already present in the baseline conditions on all local roads, which therefore demonstrates a precedent for HGV use on these roads.

Road Safety

10.4.17. Statistics showing Personal Injury Collisions on the local road network within the study area have been obtained from NYCC (now NYC) for the most recent five-year period up to and including May 2023.

10.4.18. A breakdown of the accidents is shown in Table 10.8.

Table 10.8: Personal Injury Collision Data (2018-2023)

Ref	Link	Slight	Serious	Fatal	Total
1	A614	0	0	0	0
2	A645	8	1	0	9
3	A1041 (Bawtry Road)	6	0	0	6
4	Jowland Winn Lane	0	0	0	0
5	Hardenshaw Lane	0	0	0	0
Total		14	1	0	15

10.4.19. Table 10.8 indicates a total of 15 collisions within the study area over the five-year period. Of these collisions, 14 resulted in slight injuries, and one was serious. There were no fatal accidents within the study area.

10.4.20. Generally, collisions appear to be distributed throughout the study area and no specific highway safety issue has been identified as a result.

Future Baseline Conditions

10.4.21. There are currently no planned highway works within the study area beyond routine maintenance.

10.4.22. Traffic flows may change slightly as a result of cumulative developments in the area. This is discussed further in the section 10.9 ‘Cumulative Effects’ section of this chapter.

10.4.23. To pick up background traffic growth, industry standard TEMPro growth factors, which have been adjusted in line with the National Traffic Model (NTM), have been applied to the observed traffic flows. A baseline year of 2026 has been assumed, as the start date for construction of the Proposed Development.

10.4.24. The TEMPro growth factor for Selby District is shown in Table 10.9.

Table 10.9: TEMPro Growth Factor (2022-2026) – Average Day

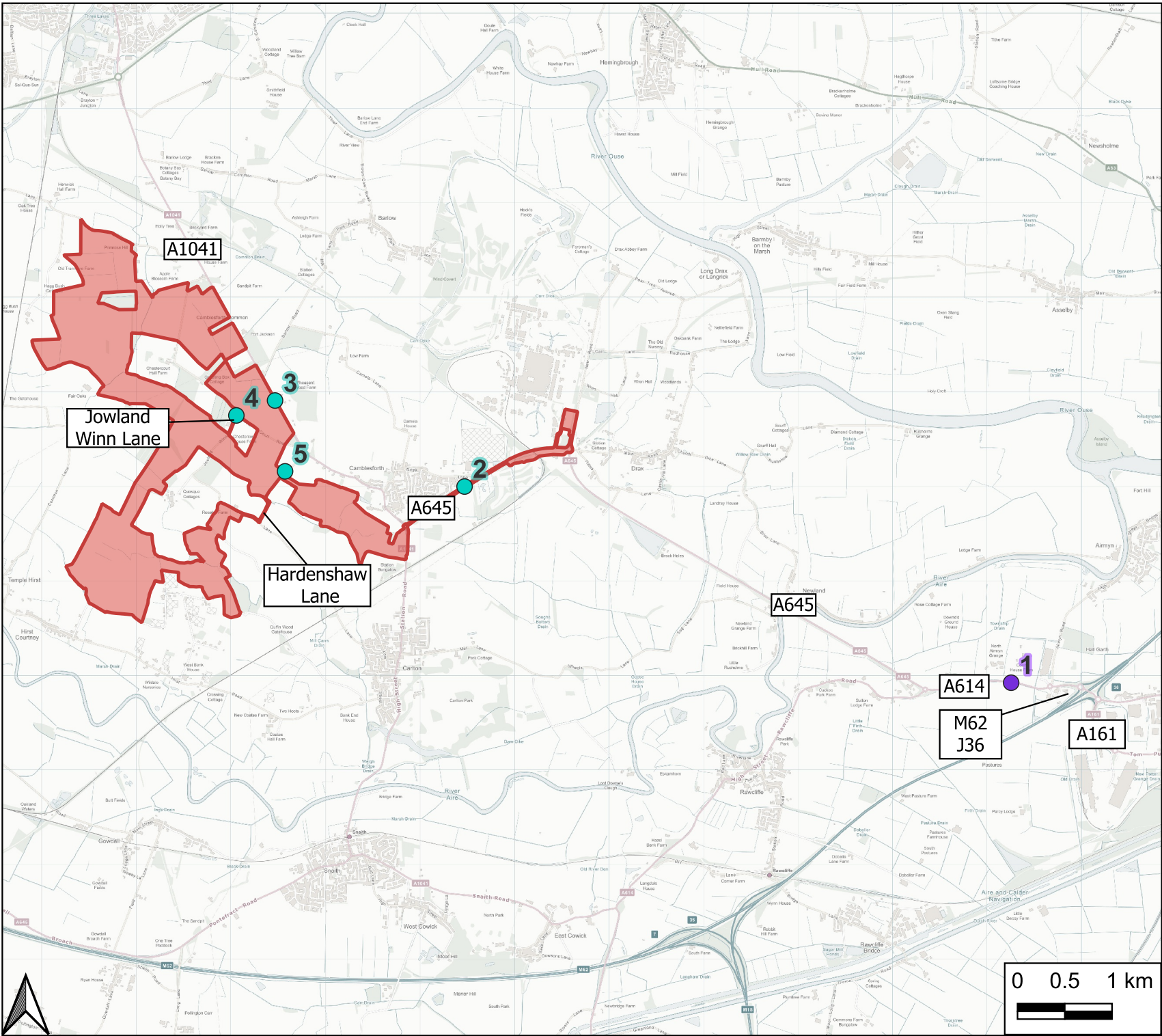
Year	Growth Factor
2022-2026	1.0339

10.4.25. The 2026 future baseline traffic flows are shown in Table 10.10.

Table 10.10: Future Baseline (2026) Traffic Flows – Average Weekday (24HR), Two-way

Link	Sensitivity	Total Vehicles	%HGV
A614	Low	12,584	8%
A645	Low	7,632	8%
A1041 (Bawtry Road)	Low	12,621	6%
Jowland Winn Lane	Medium	51	6%
Hardenshaw Lane	Medium	108	2%

Figure 10.4 Survey Locations



Key

 Site Boundary

ATC Locations

 DFT Counter

 ATC

 3

 4

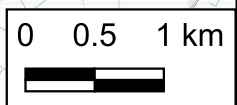
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Project Title
Helios Renewable Energy Project

Drawing Title
Automatic Traffic Count Survey Locations

DRWG No	Figure 10.4	Rev	-	SHT no	-
Drawn by	AC	Checked by	RR		
Scale	NTS	Date	22/08/2023		



10.5. Embedded Mitigation and Measures to be Adopted by the Project

Embedded Mitigation

Construction Phase

- 10.5.1. The following embedded mitigation measures will be implemented during the construction phase:
- Maintaining access to all existing PRowS within the Site, with no diversions or closures; and
 - Providing suitable points of access for construction vehicles.

Operational Phase

- 10.5.2. The following embedded mitigation measures will be implemented during the operational phase:
- Maintaining access to all existing PRowS within the Site, with no diversions or closures;
 - Providing suitable points of access for operational vehicles; and
 - The planting of landscaping and screening to conceal any reflections from the panels, which could affect drivers on the local highway network.

Decommissioning Phase

- 10.5.3. The following embedded mitigation measures will be implemented during the operational phase:
- Maintaining access to all existing PRowS within the Site, with no diversions or closures; and
 - Providing suitable points of access for decommissioning vehicles.

Measures to be Adopted by the Project

Construction Phase

- 10.5.4. An Outline CTMP ('oCTMP') will be prepared as part of the ES to be submitted in support of the application for development consent and will be secured through a

DCO requirement.

- 10.5.5. The oCTMP will provide a framework for the management of construction vehicle movements to and from the Proposed Development, to ensure that the effects of the temporary construction phase on the local highway network are minimised. The oCTMP will set out construction access arrangements, construction vehicle routing, construction vehicle trip generation, and the management/mitigation measures. It will also summarise the requirements for vehicles transporting abnormal loads (for elements such as transformers).
- 10.5.6. A number of management measures will be set out within the oCTMP for the control of vehicles associated with the construction phase. These will include, but will not be limited to the following:
- Signs to direct construction vehicles associated with the development to be installed along the agreed construction traffic route. Delivery drivers, contractors and visitors will be provided with a route plan in advance of delivering to the Site to ensure that vehicles follow the identified route;
 - Advisory signs informing contractors and visitors that parking is not permitted on-street in the vicinity of the Site or on the Site access road;
 - All signage on the designated route will be inspected twice daily by the Site Manager (once in the morning and once at lunchtime), to ensure they are kept in a well-maintained condition and located in safe and appropriate locations;
 - A compound area for contractors to be set up on-Site including appropriate parking spaces. Contractors and visitors will be advised that parking facilities will be provided on-Site in advance of visiting the Site and that they should not park on-street;
 - A wheel wash facility to be provided ahead of exiting the Site allowing vehicles to be hosed down so that no construction vehicles will take mud or debris onto the local highway network;
 - A road sweeper to be provided for surrounding local roads along the designated route to alleviate any residual debris generated during the construction phase, as required;
 - The Site to be secured at all times with Heras fencing;
 - A requirement for engines to be switched off on-Site when not in use;

- Spraying of areas with water supplied as and when conditions dictate to prevent the spread of dust;
- Vehicles carrying waste material off-Site to be sheeted;
- Banksmen to be provided at the Site access junctions to indicate to construction traffic when it is safe for them to enter and exit the Site;
- Measures to ensure the safety of public rights of way users;
- Residents in the vicinity of the Site along the designated route to be provided with contact details of the Site Manager, which will also be provided on a Site-board at the Site access and egress junctions; and
- Agreement to a Road Condition Survey with NYC.

Operational Phase

No measures are proposed.

Decommissioning Phase

- 10.5.7. A DCO requirement for a Decommissioning Traffic Management Plan ('DTMP') will be agreed with NYC prior to the commencement of the decommissioning phase of the Proposed Development, which will be secured through a DCO requirement. This will follow the principles of the oCTMP. It is not anticipated that the effects associated with decommissioning will be worse than during the construction phase.

10.6. Likely Significant Effects

Construction Phase

- 10.6.1. This section summarises the likely effects associated with the movement of vehicles during the construction phase for the Proposed Development.

Construction Programme

- 10.6.2. The construction programme for the Proposed Development is anticipated to last 12 months, which equates to approximately 260 working days.

Construction Vehicle Accesses

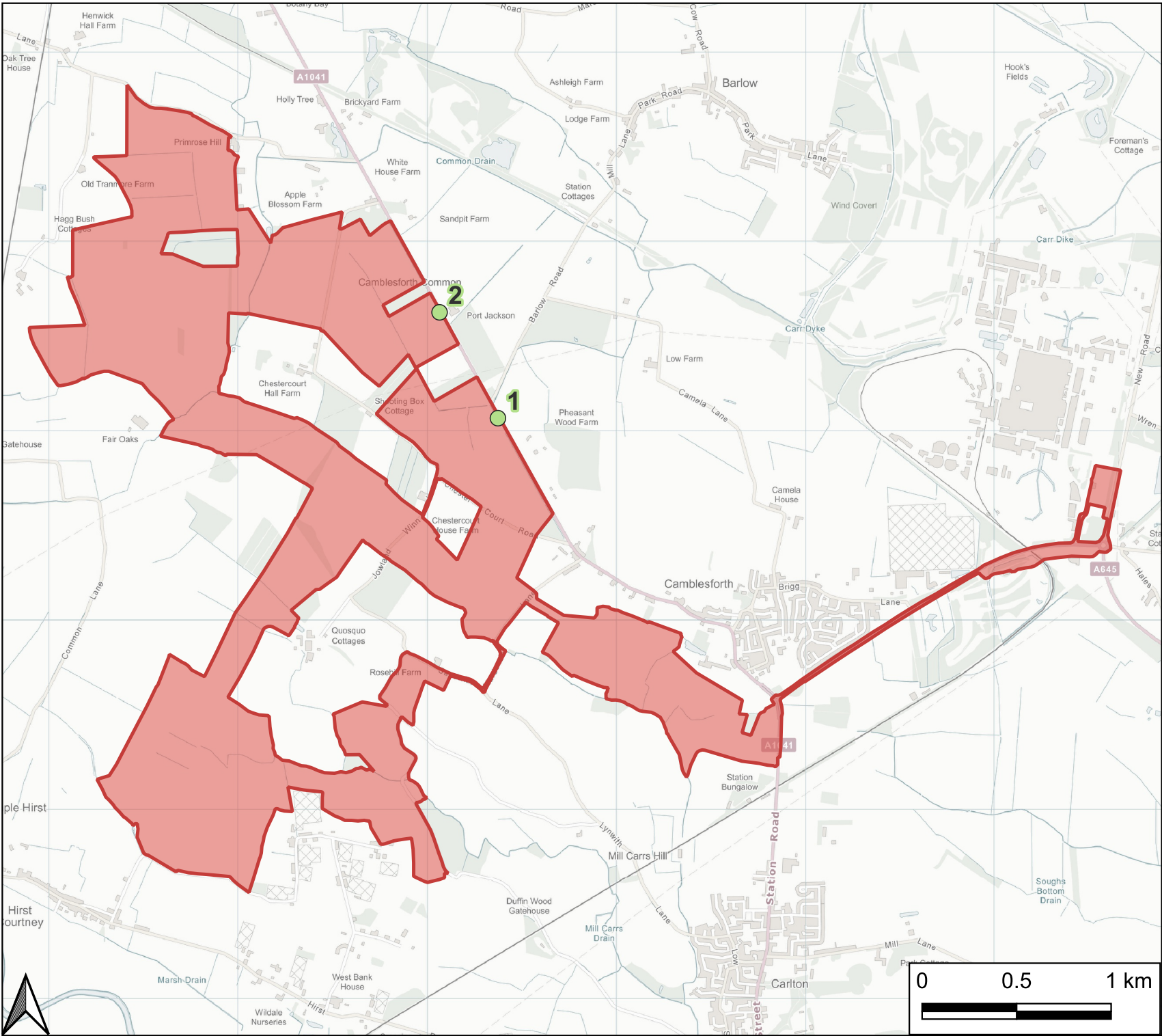
- 10.6.3. There will be two vehicle access points to the Site. The access locations are

summarised in Table 10.11 and shown in Figure 10.5 Site Access Locations.

Table 10.11: Access Locations

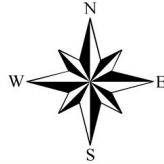
Ref	Location	Description	Use
1	A1041 (S)	Improved existing access	Construction Operation Decommissioning
2	A1041 (N)	New access	Construction Operation Decommissioning

Figure 10.5 Site Access Locations



Key

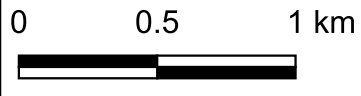
- Site Boundary
- Access Locations



Project Title
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Drawing Title
Access Locations

DRWG No	Figure 10.5	Rev	-	Sht no	-
Drawn by	AC	Checked by	RR		
Scale	NTS	Date	22/08/2023		



Construction Traffic Flows: HGVs Movements

Non-Grid Connection Elements

10.6.4. The construction phase will include the use of HGVs to bring the equipment onto the Site and this will be strictly managed to ensure that vehicle movement is controlled and kept to a minimum. On a day-to-day basis, the largest vehicle that will be used to deliver equipment to the Site will be a 16.5m articulated vehicle, although a significant proportion of movements will be by smaller vehicles. A summary of the construction activity that requires HGV movements is as follows:

- Delivery of solar modules and mounting structures – these make up the majority of deliveries. The largest vehicle used in these deliveries will be 16.5m articulated vehicles;
- Delivery of Inverters and Transformers;
- Delivery of Substation equipment;
- Delivery of material for the access track construction; and
- Other deliveries for items such as waste, fencing, sand and gravel, and for non-grid connection elements such as landscaping.

10.6.5. In total across the duration of the construction programme, there will be three abnormal load movements to transport large transformers.

Grid Connection/ Underground Cable Corridor

10.6.6. The grid connection route of the Proposed Development within the Underground Cable Corridor (shown on Figure 3.2 Parameter Plan of the PEIR) will be approximately 2.1km in length. The construction of the grid connection route includes the following elements:

- Construction of temporary haul road, horizontal direct drilling ('HDD') and laydown areas;
- Open cut excavation;
- Construction of joint bays; and
- Cabling/jointing.

10.6.7. Accesses to the grid connection route are yet to be determined. However, for the purposes of this PEIR, it is assumed access to the cable route corridor will largely be from the A645. Further details will be provided as part of the ES in support of the application for development consent.

Total HGV Trips

10.6.8. Table 10.12 summarises the number of HGVs expected at the Site during the construction phase. It is expected that there will be a relatively consistent trip profile of deliveries throughout the construction period. Therefore, the average number of deliveries per day has been calculated based on the duration of the construction phase.

10.6.9. Whilst an average day is presented, it is acknowledged that there will be a small peak within the construction period, especially during the set up at the Site. To account for this, a 50% uplift on vehicle movements has been applied for the purposes of assessment to provide a reasonable worst-case scenario.

10.6.10. Construction vehicles will avoid travel during the network peak hours where possible. Therefore, deliveries will be scheduled for between 09:30 and 16:30, where possible.

Table 10.12: Construction Traffic Flows/HGVs Deliveries

Construction Activity	Vehicle Size (Maximum)	Non-grid Connection Elements of the Proposed Development	Grid Connection Element of the Proposed Development	Total
Construction Period (Working Days)		260	260	260
Ground Mounted PV Modules	16.5m Articulated	1,350	-	1,350
Conversion Units	16.5m Articulated	25	-	25
Access Track	10m Tipper	450	-	450
General (Fencing, Landscaping, etc.)	10m Rigid	1,100	-	1,100
BESS	16.5m Articulated	450	-	450
Substation	27.5m Abnormal Indivisible Loads ('AIL') Vehicle	3	-	3
Grid Connection	10m tipper	-	1,200	1,200
Total		3,378	1,200	4,578
Total Movements (Arrivals + Departures)		6,756	2,400	9,156
Average Arrivals per Day		13	5	18
Average Movements per Day (Arrivals + Departures)		26	10	36
Average Arrivals per Day (Peak Period – Plus 50%)		19	7	26
Average Movements per Day (Peak Period – Plus 50%)		38	14	52

In summary:

- Average HGV Arrivals + Departures per Day – 13 (26 Trips) for the non-grid connection elements and 5 (10 trips) for the grid connection element of the Proposed Development; and
- Peak HGV Arrivals + Departures per Day – 19 (38 Trips) for the non-grid connection elements and 7 (14 trips) for the grid connection element of the Proposed Development.

Construction Traffic Flows: Car/Light Goods Vehicle ('LGV') Movements

- 10.6.11. On an average day, there is expected to be 150 workers for the non-grid connection elements of the Proposed Development. To account for peak periods during the construction programme, 200 construction workers on-Site have been assumed within this assessment, as a reasonable 'worst case' scenario. For this assessment, construction workers have been spread across the Site on a proportional basis.
- 10.6.12. For the grid connection/cable element of the Proposed Development, there will be around 10 construction workers on that part of the Site on a typical day.
- 10.6.13. Construction worker shifts will be scheduled so that workers are not traveling during the network peak hours of 08:00-09:00 and 17:00-18:00.
- 10.6.14. As part of the oCTMP, an Outline Construction Worker Travel Plan will be prepared as part of the ES. This will include a measure for the provision of shuttle buses to transport construction workers to and from the Sites. This is particularly important for non-local workers, who will stay in local accommodation and be transported to the Site. It can also be utilised by other workers as appropriate. It is expected that an average sized shuttle bus will be able to accommodate 20 workers. In addition, workers who drive will be encouraged to car share, where possible.
- 10.6.15. Therefore, it has been assumed that 50% of workers will arrive at the Site by shuttle bus. The remaining workers will arrive by car, with an assumed 1.5 construction workers per car, based on the national car occupancy average.
- 10.6.16. Based on a total of 200 construction workers, the forecast number of cars/LGVs are set out in Table 10.13.

Table 10.13: Cars and LGVs

	Non-Grid Connection Elements of the Proposed Development	Grid Connection Element of the Proposed Development	Total
Construction Workers	200	10	210
Shuttle Bus (20 workers per Bus)	5	-	5
Cars (1.5 Workers per Car)	67	7	74
Total Car/LGV (Arrivals)	72	7	79
Total Car/LGV Movements (Arrivals + Departures)	144	14	158

Construction Traffic Flows: Total Peak Day

10.6.17. The total traffic flows, based on the information set out above, is summarised in Table 10.14.

Table 10.14: Construction Phase Traffic Flows: Peak Day

Construction Traffic	Non-Grid Connection Elements of the Proposed Development	Grid Connection Element of the Proposed Development	Total
HGVs	19	7	26
Cars/LGVs	72	7	79
Total	91	14	105
Total Trips (Two-Way)	182	28	210

10.6.18. Table 10.14 shows that there could be 210 arrivals and departures during a peak day during the construction phase. This is a reasonable 'worst-case' assessment, and on a typical day, traffic flows will be lower than this.

Construction Traffic Routes

10.6.19. The designated routes for all vehicles associated with the construction phase form the basis for the study area for this assessment. The routes are shown in Figure 10.1 Study Area.

10.6.20. Delivery drivers, contractors and visitors will be advised of the route in advance of driving to the Site. The route has been designed to utilise the most appropriate roads available, avoid designated or protected areas, height and weight restrictions and

residential area.

10.6.21. A summary of the construction vehicle route to both accesses is set out below:

- M62 J36 exit → A614 → A645 → A14041 Bawtry Road → Access 1 and Access 2

10.6.22. Further information on the construction traffic routes will be set out in the Transport Assessment that will support the ES to be submitted in support of the application for development consent.

Construction Traffic Flows

10.6.23. Table 10.15 sets out the construction traffic flows for the links within the study area on a peak day.

Table 10.15: Construction Traffic Flows

Ref	Link	Sensitivity	Total Vehicles	HGV
1	A614	Low	210	52
2	A645	Low	210	52
3	A1041 (Bawtry Road)	Low	182	40
4	Jowland Winn Lane	Medium	91	20
5	Hardenshaw Lane	Medium	46	10

2026 Baseline plus Construction Traffic Flows

10.6.24. The construction traffic flows set out in Table 10.15 have been added to the future baseline (2026) traffic flows set out in Table 10.10. This is summarised in Table 10.16 for all vehicles, and Table 10.17 for HGVs.

Table 10.16: Future Baseline (2026) Traffic plus Construction Traffic (Total)

Ref	Link	Sensitivity	Base 2026	Base 2026 plus the Proposed Development's Construction Traffic	% Change
1	A614	Low	12,584	12,794	2%
2	A645	Low	7,632	7,842	3%
3	A1041 (Bawtry Road)	Low	12,621	12,803	1%
4	Jowland Winn Lane	Medium	51	142	179%

Ref	Link	Sensitivity	Base 2026	Base 2026 plus the Proposed Development's Construction Traffic	% Change
5	Hardenshaw Lane	Medium	10-8	154	43%

Table 10. 17: Future Baseline (2026) Traffic plus Construction Traffic (HGVs)

Ref	Link	Sensitivity	Base 2026	Base 2026 plus the Proposed Development's Construction Traffic	% Change
1	A614	Low	1,053	1,105	5%
2	A645	Low	606	659	9%
3	A1041 (Bawtry Road)	Low	696	736	6%
4	Jowland Winn Lane	Medium	3	23	625%
5	Hardenshaw Lane	Medium	2	12	547%

Further Assessment

10.6.25. As set out within this chapter, the IEMA Guidelines set out two rules which will be used as threshold impacts to define the scale and extent of the assessment, as follows:

- Rule 1: Include highway links where traffic flows will increase by more than 30% (or where the number of HGVs will increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

10.6.26. Based on these 'Rules', Table 10.18 sets out which links will be taken forward for assessment, on the basis of the percentage change in traffic flows and HGVs. Low sensitive links will be assessed against Rule 1, medium sensitive links will be assessed against Rule 2.

Table 10.18: Percentage Change and Total Vehicles and HGVs – Further Assessment

Ref	Link	Sensitivity	Total Vehicles	HGVs	Further Assessment Required
1	A614	Low	2%	5%	No
2	A645	Low	3%	9%	No
3	A1041 (Bawtry Road)	Low	1%	6%	No
4	Jowland Winn Lane	Medium	179%	625%	Yes
5	Hardenshaw Lane	Medium	43%	547%	Yes

10.6.27. Table 10.18 shows that two links have over a 30% increase in total vehicles or HGVs. This is on Jowland Winn Lane, from Access 1, and Hardenshaw Lane which connects the north and south of the Site. It should be noted that high percentage changes are more to do with low baseline traffic flows rather than the intensity of the construction traffic flows. For example, on Jowland Winn Lane, the baseline traffic flows consist of 51 vehicles per day, including 3 HGVs. Any change in traffic flow on this link will result in a large percentage change. This also applies to Hardenshaw Lane.

10.6.28. Whilst the majority of the links set out in Table 10.18 do not require further assessment, they have been commented on in the ‘Likely Effects’ section below.

10.6.29. A review of the likely significant environmental effects in relation to transport and access during the Proposed Development’s construction phase is set out below.

Likely Effects: Accidents and Safety

10.6.30. As set out in Table 10.8, there have been a total of 15 collisions within the study area during the most recent five-year period (up to and including 2023). Of these collisions, 14 resulted in slight injuries and one in serious injuries. No fatalities were recorded.

10.6.31. The IEMA Guidelines state that professional judgement should be used to assess the implications of local circumstances, or factors which may increase or decrease the risk of accidents.

10.6.32. Generally, accidents appear to be spread throughout the study area, rather than in a specific location. Whilst the addition of any amount of traffic can increase the risk of accidents, it is considered that the low level of construction traffic associated with the Proposed Development is unlikely to materially affect safety on the links in the

study area, irrespective of percentage changes in traffic flows. Therefore, the effects on accidents and safety from the Proposed Development's construction phase will be negligible (**not significant**).

- 10.6.33. In light of this, the likely effects on accidents and safety during the construction phase are set out in Table 10.19. All effects are temporary. In conclusion, the effects on accidents and safety are not considered to be significant.

Table 10.19: Effects on Accidents and Safety

Ref	Link	Sensitivity	Nature of Effect	Significance of Effects – Accidents & Safety
1	A614	Low	Short-term, Temporary	Negligible (not significant)
2	A645	Low	Short-term, Temporary	Negligible (not significant)
3	A1041 (Bawtry Road)	Low	Short-term, Temporary	Negligible (not significant)
4	Jowland Winn Lane	Medium	Short-term, Temporary	Negligible (not significant)
5	Hardenshaw Lane	Medium	Short-term, Temporary	Negligible (not significant)

Likely Effects: Severance

- 10.6.34. As stated, the IEMA Guidelines define severance as '*the perceived division that can occur within a community when it becomes separated by a major traffic artery*' (paragraph 4.27) that '*separates people from places*', for example, difficulties crossing existing roads or the physical barrier of the road itself. The IEMA Guidelines go on to suggest that '*changes in traffic flow of 30%, 60% or 90% are regarded as producing slight, moderate and substantial changes in severance respectively*' (paragraph 4.31).
- 10.6.35. Whilst this is a useful guide, when baseline traffic flows are low, as is the case for many of the local roads within the study area, applying a percentage change in traffic to determine the effects for severance is not considered appropriate. For example, on Jowland Winn Lane, there is a 178% increase in total traffic flow during the Proposed Development's construction phase. However, this only relates to an increase to 142 movements over a 24-hour period. This will result in a negligible effect on severance. This also applies to Hardenshaw Lane. Therefore, professional judgement has also been applied to judge the effects on severance.

- 10.6.36. None of the roads in the study are currently considered to act as a barrier that separates communities. For example, the settlement of Camblesforth is situated entirely to the north and east of the A1041, and is not severed by the A1041. Footways and crossings support non-motorised users. Both Hardenshaw Lane and Jowland Winn Lane are not major transport links that separate communities. They are mainly used for access to agricultural land. The addition of the construction traffic associated with the Scheme will not change this.
- 10.6.37. Therefore, the likely effects on severance during the construction phase are set out in Table 10.20. The effects are considered to be negligible and temporary. In conclusion, the effects on severance are **not considered to be significant**.

Table 10.20: Likely Effects on Severance

Ref	Link	Sensitivity	Nature of Effect	Significance of Effects – Severance
1	A614	Low	Short-term, Temporary	Negligible (not significant)
2	A645	Low	Short-term, Temporary	Negligible (not significant)
3	A1041 (Bawtry Road)	Low	Short-term, Temporary	Negligible (not significant)
4	Jowland Winn Lane	Medium	Short-term, Temporary	Negligible (not significant)
5	Hardenshaw Lane	Medium	Short-term, Temporary	Negligible (not significant)

Likely Effects: Driver Delay

- 10.6.38. The IEMA Guidelines state that '*delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system*'.
- 10.6.39. Capacity assessments on local junctions have not been undertaken for the assessment. As stated, through the CTMP, construction vehicles will be coordinated to avoid peak hour travel, the period where capacity constraints may occur, and, where possible, there will be no construction traffic on roads within the study area between 08:00-09:00 or 17:00-18:00.
- 10.6.40. As with severance, applying a percentage change in traffic to determine the effects for driver delay is not considered appropriate when the baseline traffic flows are low.

Whilst the rural links in the network have high percentage changes in traffic flows during the construction phase, they start from a low baseline. For example, on Hardenshaw Lane, there is a 42% increase in traffic flows during the Proposed Development's construction phase. However, 2026 baseline flows predict 108 two-way movements per day. This will increase to 153 two-way movements as a result of the Proposed Development's construction traffic. In this instance, whilst the percentage change in traffic flows is high, there will not be any significant driver delay associated with 153 two-way movements per day.

- 10.6.41. As such, the likely effect of construction traffic on driver delay within the study area is considered to be negligible and temporary, which is **not significant**.

Likely Effects: Pedestrian Delay (including Cyclists and Equestrians)

- 10.6.42. The IEMA Guidelines do not set out thresholds for judging the significance of changes in levels of pedestrian delay and suggest that the assessor uses their judgement to determine whether there is a significant effect on pedestrian delay.
- 10.6.43. The intention is for PRowS that cross the Site to remain open during the construction phase of the Proposed Development. There may be some slight delay to pedestrians, cyclists, and equestrian movement if a construction vehicle is crossing a ProW, but this is not likely to be material, and would occur only in isolated locations within the Site. If temporary stopping up and diversions of ProWs within the Site are required, they will be appropriately managed and diversions will be in place, if possible.
- 10.6.44. The likely effects on pedestrian delay during the construction phase are set out in Table 10.21. The effects are considered to be negligible and temporary. In conclusion, the effects on pedestrian and cyclist delay are **not significant**.

Table 10.21: Effects on Pedestrian Delay (to include Cyclists and Equestrians)

Ref	Link	Sensitivity	Nature of Effect	Significance of Effects – Severance
1	A614	Low	Short-term, Temporary	Negligible (not significant)
2	A645	Low	Short-term, Temporary	Negligible (not significant)
3	A1041 (Bawtry Road)	Low	Short-term, Temporary	Negligible (not significant)
4	Jowland Winn Lane	Medium	Short-term, Temporary	Negligible (not significant)

Ref	Link	Sensitivity	Nature of Effect	Significance of Effects – Severance
5	Hardenshaw Lane	Medium	Short-term, Temporary	Negligible (not significant)

Likely Effects: Pedestrian Amenity (including Fear and Intimidation and to include Cyclists and Equestrians)

- 10.6.45. The IEMA Guidelines suggest that a threshold for judging effects on pedestrian amenity would be ‘where the traffic flows (or its lorry component) is halved or doubled’ (paragraph 4.39). As with other environmental impact criteria in the IEMA Guidelines, applying a percentage change in traffic to determine the effects is not considered appropriate when the baseline traffic flows are low.
- 10.6.46. As stated, the level of pedestrian, cyclist and equestrian activity on the roads surrounding the Site is very low and therefore the sensitivity of the receptor is low. However, it is acknowledged that the addition of HGVs to the network will affect the relative pleasantness of any pedestrian, cyclist and equestrian journey in the area.
- 10.6.47. The likely effects on pedestrian (and cyclist and equestrian) amenity during the construction phase of the Proposed Development is set out in Table 10.22. The effects are considered to be minor adverse and temporary. In conclusion, the effects on pedestrian amenity (including cyclists and equestrian riders) are **not significant**.

Table 10.22: Effects on Pedestrian Amenity (to include Cyclists)

Ref	Link	Sensitivity	Nature of Effect	Significance of Effects – Severance
1	A614	Low	Short-term, Temporary	Minor Adverse (not significant)
2	A645	Low	Short-term, Temporary	Minor Adverse (not significant)
3	A1041 (Bawtry Road)	Low	Short-term, Temporary	Minor Adverse (not significant)
4	Jowland Winn Lane	Medium	Short-term, Temporary	Minor Adverse (not significant)
5	Hardenshaw Lane	Medium	Short-term, Temporary	Minor Adverse (not significant)

Likely Effects: Hazardous Loads

- 10.6.48. There will be some abnormal loads to transport the transformers for the Proposed Development’s 132 kilo-volt (‘kV’) Substation to the Site. An abnormal load is one

where the vehicle exceeds 44 tonnes, the width is over 2.9m or the length is more than 18.65m. These movements will be managed so that the potential effects are mitigated. Additional details will be set out in the CTMP.

- 10.6.49. Overall, it is considered that the likely effects of the construction traffic on hazardous loads will be negligible and temporary and therefore **not significant**.

Summary of Effects during Construction

- 10.6.50. The likely significant effects of the Proposed Development during the construction phase are summarised in Table 10.23.

Table 10.23: Summary of Effects during Construction Phase

Ref	Link	Sensitivity	Nature of Effect	Accidents and Safety	Severance	Driver Delay	Pedestrian Delay	Pedestrian Amenity	Hazardous Loads
1	A614	Low	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
2	A645	Low	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
3	A1041 (Bawtry Road)	Low	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
4	Jowland Winn Lane	Medium	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
5	Hardenshaw Lane	Medium	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)

Operational Phase

- 10.6.51. During the Proposed Development's operational phase, there are anticipated to be around five visits to the Site per month for maintenance purposes (less than one trip per day on average). These would typically be made by light van or 4x4 type vehicles. Whilst the construction compounds will have been removed at the end of the Proposed Development's construction phase, space will remain within the Site on the access tracks for such a vehicle to turn around to ensure that reversing will not occur onto the highway. The access locations remain as those set out in Table 10.11 and shown in Figure 10.5.
- 10.6.52. There will be no operational phase effects on transport and access associated with the installed grid connection cables, as these will be located underground. Access may be required for maintenance, but this is only likely to be required once or twice a year so negligible in scale and scoped out from further consideration.
- 10.6.53. In light of this, effects on accidents and safety, severance, driver delay, pedestrian delay and amenity and hazardous loads during the operational phase of the Proposed Development are considered to be negligible or not significant. The effects will be long-term temporary, as the modelled operational lifespan for the Proposed Development is 40 years.

Decommissioning Phase

- 10.6.54. As set out above, the modelled operational lifespan for the Proposed Development is 40 years, after which it will be decommissioned. The number of vehicles associated with the decommissioning phase are not anticipated to exceed the number set out for the construction phase, as set out in Table 10.12. An Outline Decommissioning Plan will be submitted to NYC for approval prior to decommissioning. This will be secured by a DCO requirement.
- 10.6.55. In light of this, the Proposed Development's decommissioning phase effects on accidents and safety, severance, driver delay, pedestrian delay and amenity and hazardous loads are considered to be the same as shown in Table 10.23, as a reasonable worst-case assessment. The effects will also be short term and temporary.

10.7. Mitigation Measures

Construction

- 10.7.1. No additional mitigation measures are required for the Proposed Development's construction phase.

Operational Phase

- 10.7.2. No additional mitigation measures are required for the Proposed Development's operational phase.

Decommissioning Phase

- 10.7.3. No additional mitigation measures are required for the Proposed Development's decommissioning phase.

10.8. Residual Effects

Construction Phase

- 10.8.1. The likely significant residual effects of the Proposed Development during the construction phase are summarised in Table 10.24. Table 10.24 shows that the residual effects in relation to transport and access as a result of the construction phase of the Proposed Development remain unchanged from those set out in section 10.6 'Likely Significant Effects' of the chapter (including accounting for the implementation of additional mitigation measures set out in section 10.7 'Mitigation Measures' above) and therefore will be **not significant**.

Table 10.24: Summary of Residual Effects during the Proposed Development’s Construction Phase

Ref	Link	Sensitivity	Nature of Effect	Accidents and Safety	Severance	Driver Delay	Pedestrian Delay	Pedestrian Amenity	Hazardous Loads
1	A614	Low	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
2	A645	Low	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
3	A1041 (Bawtry Road)	Low	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
4	Jowland Winn Lane	Medium	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
5	Hardenshaw Lane	Medium	Short-term, Temporary	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)

Operational Phase

10.8.2. During the operational phase of the Proposed Development, the residual effects on accidents and safety, severance, driver delay, pedestrian delay and amenity and hazardous loads will remain negligible as set out in in section 10.6 'Likely Significant Effects' of the chapter. Therefore, all residual effects in relation to Transport and Access as a result of the operational phase of the Proposed Development will be **not significant**.

Decommissioning Phase

10.8.3. The number of vehicles associated with the decommissioning phase are not anticipated to exceed the number set out for the construction phase, as set out in Table 10.15. An Outline Decommissioning Plan will be submitted to the local planning authority for approval prior to decommissioning. This will be secured by a requirement of the DCO.

10.8.4. In light of this, effects on accidents and safety, severance, driver delay, pedestrian delay and amenity, and hazardous loads for the Proposed Development's decommissioning phase are considered to be the same as shown in Table 10.24, as a reasonable worst-case assessment. Therefore, all residual effects in relation to transport and access as a result of the decommissioning phase of the Proposed Development will be **not significant**.

10.9. Cumulative Effects

Construction Phase

10.9.1. It is considered that the following cumulative schemes will have an effect on the study area. These are:

- Drax Power Station Bioenergy with Carbon Capture and Storage Project NSIP: A carbon capture infrastructure installation at Drax Power Station for the compression and treatment of carbon dioxide to allow connection to a National Grid carbon dioxide transport system;
- Land off New Road, Drax (Ref: 2020/1357/FULM): An energy storage facility with associated infrastructure, access and grid connection;
- Land off Hales Road, Drax (Ref: 2021/1089/FULM): An energy storage facility

with associated infrastructure, access and grid connection;

- Land North and South of Camela Lane, Camblesforth (Ref 2021/0788/EIA): Development of a ground mounted solar farm including associated infrastructure;
- Drax Power Station, Drax (Ref: 2022/0107/NYSCO): The additional recovery of ash resource on land at Barlow Ash Mound;
- Rusholme Grange, Rusholme Lane, Newland, Selby (Ref: 2021/0601/FUL): Construction of a battery energy storage system to provide energy balancing services to the National Grid; and
- Land south of the A645, Drax (Ref: 2023/0128/EIA): Development of a ground-mounted solar farm including associated infrastructure.

10.9.2. These schemes have been selected for cumulative assessment due to their proximity to the Proposed Development or the routes used by construction or operational traffic share part of, or all, of the assigned construction vehicle route.

10.9.3. Table 10.25 sets out the additional traffic flows associated with these schemes, based on information that is publicly available.

Table 10.25: Traffic Flows Associated with Cumulative Schemes (24hr Daily Construction Flows)

Ref	Link	Drax Power Station Bioenergy ¹	Land off New Road ²	Land off Hales Lane ³	Land North and South of Camela Lane ⁴	Drax Power Station ⁵	Rusholme Grange ⁶	Land south of A645 ⁷	Total
1	A614	1,042	23	14	6	2	5	10	1,102
2	A645	1,440	31	14	6	2	5	10	1,508
3	A1041 (Bawtry Road)	398	8	0	6	0	0	0	412
4	Jowland Winn Lane	0	0	0	0	0	0	0	0
5	Hardenshaw Lane	0	0	0	0	0	0	0	0

1. Sourced from Drax Power Station ES Chapter 5 Traffic and Transport. All construction vehicles will route via the A614 and A645 and assumes 30% staff will route via the A1041 from Selby.
2. Sourced from Land off New Road CTMP for route details and construction vehicle numbers taken from the

CEMP. Two routes are proposed (preferred and alternative), therefore it was assumed 75% of vehicles would route via the preferred route (A614 and A645) and 25% via the alternative route (A63, A1041 and A645)

3. Sourced from Hales Lane Battery Storage Facility Transport Statement. Construction trips include enabling works, main construction phase and post-construction (includes for installation of fencing and CCTV)
4. Sourced from Land North and South of Camela Lane Construction Management Plan (CMP). All vehicles will route via the A1041, A645 and A614.
5. Sourced from Barlow Ash Mound EIA Scoping Report and Scoping Opinion. Assumes 100% road movement for robustness with the construction route using the A645 and A614 to access the M62.
6. Sourced from Rusholme Lane Transport Statement. All vehicles will route via the A614 and A645.
7. Sourced from Land off Wade House Lane, Carlton, Drax Transport Statement. All vehicles will route via the A614 and A645.

10.9.4. Table 10.26 sets out the development flows in the context of baseline traffic flows, and traffic flows associated with the cumulative schemes including the cumulative schemes.

Table 10.26: Future Baseline (2026) Traffic plus Cumulative Schemes

Ref	Link	Baseline	Baseline plus Proposed Development	Baseline plus Proposed Development plus Cumulative Schemes	%Change*
1	A614	12,584	12,794	13,896	9%
2	A645	7,632	7,842	9,350	19%
3	A1041 (Bawtry Road)	12,621	12,803	13,215	3%
4	Jowland Winn Lane	51	142	142	0%
5	Hardenshaw Lane	108	154	154	0%

*Compared to Baseline plus Proposed Development

10.9.5. Table 10.26 shows that traffic flows associated with the cumulative schemes will have the largest effect on the A614 and A645. This is due to the majority of the schemes located near to these A-roads. As a number of the traffic flows on these links associated with the construction phase of the Scheme are low, it is unlikely that the cumulative effects will be any different to the residual effects set out in Table 10.24. These are therefore negligible or minor adverse, and **not significant**.

Operational Phase

10.9.6. During the operational phase, the cumulative effects on accidents and safety, severance, driver delay, pedestrian delay and amenity and hazardous loads will remain negligible (**not significant**). Therefore, there are not expected to be any significant cumulative effects in relation to Transport and Access as a result of the

operation of the Proposed Development.

Decommissioning Phase

10.9.7. The cumulative effects on accidents and safety, severance, driver delay, pedestrian delay and amenity and hazardous loads for the decommissioning phase are considered to be the same as shown in Table 14.24, as a worst-case assessment. Therefore, there are not expected to be any significant cumulative effects in relation to Transport and Access as a result of the decommissioning of the Proposed Development.

10.10. Summary

10.10.1. This chapter has assessed the likely significant effects of the Proposed Development's construction, operational and decommissioning phases in relation to transport and access. The Proposed Development is not likely to result in any significant transport and access effects during its construction, operational and decommissioning phases.

10.10.2. The chapter has been prepared with consideration given to guidance prepared by the DfT, the IEMA Guidelines for Road Traffic and the DMRB. The study area included that of the surrounding road network that will be utilised as part of the construction route to the proposed development which included the A614, A645, A1041 Bawtry Road, Hardenshaw Lane and Jowland Winn Lane. The assessment was assisted via a sourced information including ATC surveys, highway boundary information and topographical surveys.

10.10.3. Effects assessed were accidents and safety, severance, driver delay, pedestrian delay (which included cyclists and equestrians), pedestrian amenity (also included cyclists and equestrians), and hazardous loads.

10.10.4. A peak of 210 two-way construction movements (including 52 HGVs) were predicted per day during the construction phase of the Proposed Development. Using 2026 as the baseline construction year, the growthed traffic for each of the roads within the study area only exceeded the IEMA Guidelines thresholds on two of the roads: Jowland Winn Lane and Hardenshaw Lane. These both exceeded the 30% increase in traffic threshold, although from a very low baseline. As a robust assessment, all roads within the study area were included within the assessment.

- 10.10.5. During the Proposed Development's construction and decommissioning phases, the majority of effects will be negligible, short-term and temporary. Pedestrian amenity, which included cyclists and equestrians, resulted in a minor adverse, short-term and temporary effect. No effects will be significant. During the Proposed Development's operational phase, all effects will be negligible.
- 10.10.6. Several mitigation measures are proposed, and these include a CTMP, a Travel Plan, a Public Right of Way Management Plan, and a Stage 1 Road Safety Audit at all access junctions. These will be implemented and enforced throughout the construction and decommissioning phases.
- 10.10.7. Several cumulative schemes that may be in effect during the construction of the Proposed Development and these were assessed for the future baseline year 2026. In total, six cumulative schemes would have an effect on the study area, affecting the A614, A645 and the A1041. All roads are considered A-roads and as a number of the schemes had relatively low daily movement numbers, it was predicted that the cumulative schemes would result in the same residual effects for the construction of the Proposed Development. As such, depending on the effect, these were either negligible or minor adverse and all not significant. This was the same for the operational and decommissioning phases.
- 10.10.8. Table 10.27 contains a summary of the preliminary assessment of the likely significant effects of the Proposed Development.

Table 10.27: Table of Significance – Transport and Access

Potential Effect	Nature of Effect*	Significance **	Secondary Mitigation/ Enhancement Measures	Geographical Importance ***						Residual Effects ****		
				I	UK	E	R	C	UA		L	
Construction Phase (accounting for Embedded Mitigation and Measures to be Adopted by the Project)												
Effects on Accidents and Safety	Short-term, Temporary	Negligible	Implementation of Public Right of Way Management Plan and undertaking of a Stage 1 Road Safety Audit at all access junctions to recommend additional safety measures at the access.							X	Negligible (Not Significant)	
Effects on Severance	Short-term, Temporary	Negligible									X	Negligible (Not Significant)
Effects on Driver Delay	Short-term, Temporary	Negligible									X	Negligible (Not Significant)
Effects on Pedestrian Delay (including Cyclist and Equestrian) Delay	Short-term, Temporary	Negligible									X	Negligible (Not Significant)
Effects on Pedestrian Amenity (including fear and intimidation and to include Cyclist and Equestrian) Amenity	Short-term, Temporary	Minor Adverse									X	Minor Adverse (Not Significant)
Effects of Hazardous Loads	Short-term, Temporary	Negligible									X	Negligible (Not Significant)
Operational Phase (accounting for Embedded Mitigation and Measures to be Adopted by the Project)												
Effects on Accidents and Safety	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)	

**Helios Renewable Energy Project
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Potential Effect	Nature of Effect*	Significance **	Secondary Mitigation/ Enhancement Measures	Geographical Importance ***						Residual Effects ****	
				I	UK	E	R	C	UA		L
Effects on Severance	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Driver Delay	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Pedestrian Delay (including Cyclist and Equestrian) Delay)	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Pedestrian Amenity (including fear and intimidation and to include Cyclist and Equestrian) Amenity	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects of Hazardous Loads	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Decommissioning Phase (accounting for Embedded Mitigation and Measures to be Adopted by the Project)											
Effects on Accidents and Safety	Short-term, Temporary	Negligible	Implementation of Public Right of Way Management Plan and undertaking of a Stage 1 Road Safety Audit at all							X	Negligible (Not Significant)
Effects on Severance	Short-term, Temporary	Negligible								X	Negligible (Not Significant)

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Potential Effect	Nature of Effect*	Significance **	Secondary Mitigation/ Enhancement Measures	Geographical Importance ***						Residual Effects ****		
				I	UK	E	R	C	UA		L	
Effects on Driver Delay	Short-term, Temporary	Negligible	access junctions to recommend additional safety measures at the access.							X	Negligible (Not Significant)	
Effects on Pedestrian Delay (including Cyclist and Equestrian) Delay	Short-term, Temporary	Negligible									X	Negligible (Not Significant)
Effects on Pedestrian Amenity (including fear and intimidation and to include Cyclist and Equestrian) Amenity	Short-term, Temporary	Minor Adverse									X	Minor Adverse (Not Significant)
Effects of Hazardous Loads	Short-term, Temporary	Negligible									X	Negligible (Not Significant)
Cumulative Effects												
<i>Construction Phase</i>												
Effects on Accidents and Safety	Short-term, Temporary	Negligible	None required								X	Negligible (Not Significant)
Effects on Severance	Short-term, Temporary	Negligible	None required								X	Negligible (Not Significant)
Effects on Driver Delay	Short-term, Temporary	Negligible	None required								X	Negligible (Not Significant)

**Helios Renewable Energy Project
PEIR**

Potential Effect	Nature of Effect*	Significance **	Secondary Mitigation/ Enhancement Measures	Geographical Importance ***						Residual Effects ****	
				I	UK	E	R	C	UA		L
Effects on Pedestrian Delay (including Cyclist and Equestrian) Delay	Short-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Pedestrian Amenity (including fear and intimidation and to include Cyclist and Equestrian) Amenity	Short-term, Temporary	Minor Adverse	None required							X	Minor Adverse (Not Significant)
Effects of Hazardous Loads	Short-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
<i>Operational Phase</i>											
Effects on Accidents and Safety	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Severance	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Driver Delay	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Pedestrian Delay (including Cyclist and Equestrian) Delay	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)

**Helios Renewable Energy Project
PEIR**

Potential Effect	Nature of Effect*	Significance **	Secondary Mitigation/ Enhancement Measures	Geographical Importance ***						Residual Effects ****	
				I	UK	E	R	C	UA		L
Effects on Pedestrian Amenity (including fear and intimidation and to include Cyclist and Equestrian) Amenity	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects of Hazardous Loads	Long-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
<i>Decommissioning Phase</i>											
Effects on Accidents and Safety	Short-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Severance	Short-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Driver Delay	Short-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Pedestrian Delay (including Cyclist and Equestrian) Delay	Short-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Effects on Pedestrian Amenity (including fear and intimidation and to include Cyclist and	Short-term, Temporary	Minor Adverse	None required							X	Minor Adverse (Not Significant)

**Helios Renewable Energy Project
PEIR**

Potential Effect	Nature of Effect*	Significance **	Secondary Mitigation/ Enhancement Measures	Geographical Importance ***							Residual Effects ****
				I	UK	E	R	C	UA	L	
Equestrian) Amenity											
Effects of Hazardous Loads	Short-term, Temporary	Negligible	None required							X	Negligible (Not Significant)
Nature of Effect * Significance** Geographical Importance *** Residual Effects ****	Permanent or Temporary Short-term, Medium-term, or Long-term Major/ Moderate/ Minor/ Negligible Beneficial/ Adverse I = International; UK = United Kingdom; E = England; R = Regional; C = County; UA = Unitary Authority; L = Local Major / Moderate / Minor / Negligible Beneficial / Adverse										