



Mallard Pass

Solar Farm

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Table of Contents

9.0	Highways and Access.....	9-1
9.1.	Introduction.....	9-1
9.2.	Planning Policy and Guidance.....	9-1
9.3.	Assumptions and Limitations.....	9-4
9.4.	Baseline Conditions.....	9-8
9.5.	Embedded Mitigation.....	9-12
9.6.	Potential Effects	9-14
9.7.	Proposed Additional Mitigation	9-22
9.8.	Residual Effects	9-23
9.9.	Monitoring Requirements	9-23
9.10.	Cumulative Effects	9-23
9.11.	Conclusion.....	9-23
9.12.	References	9-31

List of Tables

Table 9-1 Effects Significance Matrix.....	9-3
Table 9-2 Description of Significance Criteria	9-3
Table 9-3: Highways and Access - Road Closure Sensitivity Test.....	9-22
Table 9-4: Highways and Access -Summary of Effects	9-25

9.0 Highways and Access

9.1. Introduction

- 9.1.1. This chapter of the ES presents the approach and findings of the assessment of potential impacts on Highways and Access. The chapter, and its accompanying appendices present the methodology followed and provide a review of the baseline conditions in the vicinity of the Proposed Development and surrounding area. The chapter then presents the results of the assessment and the impact of the Proposed Development on the baseline environment in order to determine the anticipated magnitude of impact and significance of effect. Mitigation measures are presented and discussed to minimise the impacts of the Proposed Development during the construction, operation and decommissioning phases to an acceptable level.

9.2. Planning Policy and Guidance

- 9.2.1. This assessment has been undertaken with regard to the following policy documents:
- a. National Planning Policy Statements
 - ◆ Overarching National Policy Statement for Energy (EN-1)
 - ◆ Draft Overarching National Policy Statement for Energy (EN-1)
 - ◆ National Policy Statement for Renewable Energy Infrastructure (EN-3)
 - ◆ Draft National Policy Statement for Renewable Energy Infrastructure (EN-3)
 - b. National Planning Policy
 - ◆ National Planning Policy Framework (NPPF)
 - c. Planning Practice Guidance
 - ◆ Natural Environment (21st July 2019)

- ◆ Renewable and Low Carbon Energy (18th June 2015)
- ◆ National Design Guide (January 2021)
- d. Local Planning Policy
 - ◆ Rutland Local Development Framework: Core Strategy (Adopted July 2011)
 - ◆ South Kesteven Local Plan 2011- 2036 (January 2020)
 - ◆ Lincolnshire County Council (LCC) Local Transport Plan 4 2013/14 to 2022/23

b. Guidance

- ◆ Environmental Assessment of Road Traffic (GEART), produced by the Institute of Environmental Assessment (IEA) (now the Institute of Environmental Management and Assessment (IEMA) 1993) **[Ref 9-1]**

9.2.2. Further detail on these policies and guidance of relevance to this assessment is provided in **Appendix 9.1 [EN010127/APP/6.2]**.

9.2.3. The Highways and Access assessment follows the general approach to undertaking EIA as detailed in Chapter 2: Overview of the EIA process, of the ES **[EN010127/APP/6.1]**, albeit it has been modified to take account of relevant industry guidelines and best practice (see above). The approach to the assessment of the sensitivity of receptors, magnitude of impacts and the significance of effects in relation to Highways and Access is described in **Appendix 9.2**.

9.2.4. A summary of the consultation undertaken, setting out the main key matters raised by the stakeholders (including in the Scoping Opinion) and a description of how and where this matter has been addressed in the EIA and ES is provided in **Appendix 9.3**.

9.2.5. This chapter of the ES is supported by the following additional documents:

- a. **Appendix 9.4** - Transport Assessment (TA);
- b. **Appendix 9.5** - Baseline and Future Traffic Flows;
- c. **Appendix 9.6** - Construction Traffic Impact Assessment;
- d. Outline Construction Traffic Management Plan (oCTMP) **[EN010127/APP/7.11]**; and
- e. Outline Travel Plan (oTP) **[EN010127/APP/7.14]**.

Assessment Methodology and Significance Criteria

- 9.2.6. The methodology for the assessment of effects is based on the 'Guidelines for the Environmental Assessment of Road Traffic' (GEART), produced by the Institute of Environmental Assessment (IEA) (now the Institute of Environmental Management and Assessment (IEMA)) 1993).
- 9.2.7. The assessment is based on a source-pathway-receptor methodology, where the sensitivity of the receptors and the magnitude of potential change upon those receptors identified within the study areas.
- 9.2.8. The effects matrix (**Table 9-1**) is set out below along with the description of significance criteria (**Table 9-2**).

Table 9-1 Effects Significance Matrix

Magnitude of Effect	Sensitivity of Resource or Receptor		
	High	Moderate	Low
High	Major	Major	Minor
Moderate	Major	Moderate	Minor
Low	Moderate	Minor	Negligible
Negligible	Negligible	Negligible	Negligible

Table 9-2 Description of Significance Criteria

Significance Criteria	Description of Criteria
Major Beneficial	A considerable positive effect to receptor which is of a scale that has more than local importance
Moderate Beneficial	A positive effect on the receptor in terms of extent, duration, or magnitude.

Minor Beneficial	A positive effect on the receptor that is small, localised, or short term.
Neutral/Not Significant	No perceivable impact
Minor Adverse	A negative effect on the receptor that is small, localised, or short term.
Moderate Adverse	A negative effect on the receptor in terms of extent, duration, or magnitude.
Major Adverse	A negative effect on the receptor that will have an impact on the wider area or that may be in breach of standards or legislation.

- 9.2.9. The approach to the assessment of the sensitivity of receptors, magnitude of impacts and the significance of effects in relation to Highways and Access is described in full within **Appendix 9.2**.

Consultation

- 9.2.10. As part of the pre-application process, consultation has been undertaken with National Highways, Lincolnshire County Council and Rutland County Council to discuss and agree the scope of the traffic survey, construction traffic access routes, construction trip generation methodology, highway improvements and site access locations.
- 9.2.11. A summary of the consultation undertaken, setting out the main key matters raised by the stakeholders (including in the Scoping Opinion) and a description of how and where this matter has been addressed in the EIA and ES is provided in **Appendix 9.3**.

9.3. Assumptions and Limitations

- 9.3.1. The nature of the Proposed Development is such that the greatest impact is likely to occur during the construction phase, with this being the focus of the assessment of Highways and Access effects presented in this chapter.
- 9.3.2. There will likely be a negligible amount of traffic associated with the operational phase, with initial calculations suggesting typically four staff onsite across the day, with up to two visits per week when required and up to a total of 20 staff per day at any one time.

- 9.3.3. This level of operational trip generation equates to a very limited number of vehicle trips during the peak hours and each day to/from the Order limits. Assuming as a worst-case that all 20 staff arrive and depart from the Order limits by car each day, this equates to a worst-case of 40 daily two-way car trips on the local network over the duration of the day. The types of vehicles for staff will also be mostly smaller cars or vans.
- 9.3.4. This level of trip generation is considered to be negligible and as such, operational effects have been scoped out of the assessment. This assumption is based on the impact thresholds identified prior to submission, with RCC identifying a threshold of 30 two-way vehicle trips during the AM peak or PM peak hour. As the impact of the operational flows will be spread over a day and much less than this in the peak hour, the impact of the operational flows are considered to be negligible.
- 9.3.5. With respect to the decommissioning phase, the effects are considered to be similar to, or of a lesser magnitude than the effects generated during the construction phase. However, there can be a high degree of uncertainty regarding decommissioning as engineering approaches and technologies evolve over the operational life of the Proposed Development, meaning that future traffic flows cannot be accurately fixed to a future point in time. Therefore, it is proposed for a standalone decommissioning transport management plan to be produced and approved to account for the traffic flows anticipated at that time prior to decommissioning taking place. This is secured by a Requirement in the DCO **[EN010127/APP/3.1]**.
- 9.3.6. It is noted that this approach has been deemed as acceptable by the key stakeholders, such as Lincolnshire County Council (LCC), Rutland County Council (RCC) and National Highways (NH) prior to the submission of the DCO application, with details included at **Appendix 9.3**.

Construction Trip Generation

- 9.3.7. As set out in Chapter 5: Project Description, of the ES, it is assumed that construction of the Proposed Development will require a daily peak of up to 54 two-way HGV trips and 105 two-way LGV trips over the two-year construction programme, being delivered within the extent of the Order limits
- 9.3.8. As the proposed construction strategy involves delivering directly to the primary construction compound, before distributing onwards to the secondary construction compounds (subject to phasing and works required), it is assumed that these vehicle trips are already accounted for within the construction trip generation noted above, as a significant number of these trips will also be internalised within the internal site roads.
- 9.3.9. However, for robustness, assumptions will be made to account for any additional trips associated with the trips to the secondary compounds, to capture the worst-case scenario in terms of the Highways and Access impacts should any issues with internal routing arise. On that basis, an additional 50% of the two-way HGV trips (27 two-way daily HGV trips) have been added onto the assessment discussed later within this Chapter to account for trips between the primary and secondary construction compounds. It is assumed that there will be no impact during the traditional AM and PM peak hours (08:00-09:00 and 17:00-18:00), as staff will arrive outside the peak hours and HGV deliveries will be limited to a fixed window outside of the peak hours. This is set out in the Outline Construction Traffic Management Plan **[EN010127/APP/7.11]** and the Outline Travel Plan **[EN010127/APP/7.14]** both of which are secured by DCO Requirement.
- 9.3.10. The methodology to develop the construction trip generation, with the underlying assumptions, has been discussed and agreed with key stakeholders, such as Lincolnshire County Council (LCC) and Rutland County Council (RCC) prior to the submission of the DCO application with details included at **Appendix 9.3**.

Access Routes

- 9.3.11. At this stage, it is not possible to determine (or fix) the point of arrival within the United Kingdom for the PV Modules and other components of the Proposed Development. On that basis, an initial feasibility exercise has been undertaken to determine potential access routes along the Local Road Network (LRN) to the Order limits, more specifically the access point for the primary construction compound, from the Strategic Road Network (SRN).
- 9.3.12. Through consultation with stakeholders regarding the three routes considered as part of the development of the access routing strategy to the primary construction compound, it is proposed that HGVs will arrive via Route 1 from the west, before accessing the primary construction compound located opposite of the National Grid Ryhall Substation, then finally departing via Route 3 towards the east (see Figure 9.1 for the visual representation of these Routes). These routes are discussed further in section 9.3 below.
- 9.3.13. Further information on the distribution of trips and routing from the primary construction compound to the secondary construction compound is included within the supporting CTMP at **Appendix 9.5**.
- 9.3.14. This approach to vehicle routing provides embedded mitigation for the Proposed Development, as discussed later within this chapter.
- 9.3.15. It is acknowledged that LGVs could reasonably utilise Routes 1-3 to access the Order limits. On that basis, it is assumed for the purposes of assessment that LGV trips will utilise Routes 1, 2 and 3 evenly.
- 9.3.16. The construction methodology will seek to apply a consolidation approach, whereby all deliveries are delivered directly to the primary construction compound. From the primary construction compound, the materials will be transported appropriately towards the secondary compound(s), as required. At the secondary compound(s), vehicles will then unload and

either return to the primary compound to collect another load or depart the Order limits, via Route 3 as per the other construction traffic.

Shuttle Service

- 9.3.17. It is proposed (and is set out in the Outline Travel Plan **[EN010127/APP/7.14]**) to implement a shuttle service for staff directly from the primary construction compound to the relevant secondary construction compound(s), which would be subject to phasing of the works. The trips associated with the arrival and departure of the shuttle bus are accounted for within the construction trip generation.

9.4. Baseline Conditions

Current Baseline

Highway Network

- 9.4.1. In terms of the SRN, the A1, which connects Grantham and Stamford, is located approximately 6km west of the centre of the Order limits (OS grid reference TF052115). The A47 is located to the south of the Order limits and passes through Peterborough. The A47 is accessed via the A15, which connects Bourne and Peterborough, which is located approximately 6.5km east of the centre of the Order limits.
- 9.4.2. The A47 can also be accessed via the A1175, which is located approximately 4.5km south of the centre of the Order limits, which provides a vehicular link between Stamford and Market Deeping and a link between Stamford and Oakham along the A606.
- 9.4.3. The A6121, which connects Ryhall, Essendine and Carlby, separates the north-western extent of the Order limits from the remainder, routing on a general north-east to south-west alignment. The B1176 segments the north-westernmost extent of the Order limits and is routed on a general north-south direction.

- 9.4.4. It is acknowledged that due to the rural nature of the surrounding area, a number of the local roads are subject to weight restrictions (primarily <7.5t) allowing for access only by vehicles below this weight limit.
- 9.4.5. For access from the SRN to the Solar PV Site via the LRN, three key routes have been identified to reach the access point to the primary construction compound. The location of the primary construction compound for the Proposed Development is to be located directly opposite to the National Grid Ryhall Substation at Uffington Lane.
- 9.4.6. The routes to the primary construction compound have been selected based on the proximity and distance to the SRN, the presence of any vehicle restrictions (in terms of physical geometric constraints or weight restrictions) that may hinder access for construction vehicles and to avoid residential areas by as much as is practicably possible.
- 9.4.7. An assessment of each route was presented during scoping discussions with LCC and RCC to review the suitability of each route and agree the preferred approach to be utilised and is discussed in the 'Assumptions' section above.
- 9.4.8. A plan summarising the extent of Routes 1, 2 and 3, as well as presenting the surrounding vehicular weight limit restrictions, is provided within Figure 9.1.
- 9.4.9. The routes are summarised as follows:
- a. **Route 1** would access the Solar PV Site from the A1 in the west, which forms part of the SRN, via the B1081 Old Great North Road, Ryhall Road and the A6121 Essendine Road.
 - b. **Route 2** would access the Solar PV Site from the east and the junction of the A47 with the A15 at Peterborough which forms part of the SRN. Vehicles will travel via the A15, the A1175 Main Road, Uffington Lane via Stamford, before joining onto the A6121 Ryhall Road and the A6121 Essendine Road.

- c. **Route 3** would access the Solar PV Site via the junction of the A47 with the A15 from the east, before travelling via Bourne (A15) and Raymond Mays Way (south of Bourne), before finally joining onto the A6121 Stamford Road.

- 9.4.10. To inform traffic flows, a review of the existing Department for Transport (DfT) static counts has been undertaken along Routes 1 to 3, to identify where there are already baseline Annual Average Daily Total (AADT) traffic flows within the area, which also provide an indication of the existing proportions of any HGVs along the routes where DfT count data is available.
- 9.4.11. Where 'gaps' have been identified in the existing DfT static counts along the potential routes from the SRN to the Solar PV Site, a number of Automatic Traffic Counter (ATC) surveys were undertaken, which recorded seven day 24-hour traffic flows, speeds and vehicle classifications across the LRN.
- 9.4.12. The surveys were undertaken the week commencing 11th October 2021, which was identified as a suitable period for the surveys to take place as it was within a 'traffic neutral' month and was outside of any school holiday periods, as per the DfT Transport Analysis Guidance (TAG) UNIT M1.2 (2020).[Ref 9-2]
- 9.4.13. The scope and timings of the traffic surveys were agreed with NH, RCC and LCC, with the data being deemed as representative of the typical traffic conditions post covid-19.
- 9.4.14. A summary of the baseline traffic flows on the links for Routes 1, 2 and 3 is included at **Appendix 9.5**.
- 9.4.15. The baseline traffic flows do not capture traffic flows along the SRN, as there is no traffic impact from the Proposed Development during the peak hours, which falls below the peak hour threshold for further assessment typically used by NH, which is based on a threshold of 30 two-way vehicle

trips during the AM or PM peak one hour. This approach has been agreed with NH within consultation discussions at **Appendix 9.3**.

Walking and Cycling Network

- 9.4.16. Due to the rural nature of the Proposed Development, there is a limited provision of footways alongside the carriageways of the roads in the vicinity of the Order limits. However, there are footways that run along the northern and southern kerblines of the A6121 through Essendine, the southern kerblines through Ryhall, and the northern and southern kerblines of Ryhall Road through Great Casterton.
- 9.4.17. Of note, there is a shared footway/cycleway along the southern kerblines of the A6121 which runs between Essendine and Great Casterton.
- 9.4.18. Along the western edge of the Order limits, 'The Drift' becomes a Byway open to all traffic, although within the immediate vicinity of the Order limits it is an adopted part of the local road network.
- 9.4.19. There are also four Public Rights of Way (PRoW) that pass either through or alongside the Solar PV Site boundaries.
- 9.4.20. With respect to equestrians, there are two bridleways located within the Solar PV Site. PRoW bridleway BrAW/1/1 crosses the eastern extent of the Solar PV Site in a general north-south alignment, whilst PRoW bridleway E169/1 routes through the north-western extent of the Solar PV Site between the A6121 and B1176 in a general north-west to south-east alignment.
- 9.4.21. Further details on the baseline conditions around the Order limits, including a review of collision data, is included within the TA at **Appendix 9.4**.

Future Baseline

- 9.4.22. Without the implementation of the Proposed Development, it is likely that the future baseline will generally be consistent with the current baseline.

- 9.4.23. However, in accordance with industry best practice and discussions with key stakeholders, TEMPPO growth factors have been used to growth the baseline traffic data up to predicted future levels, when construction is anticipated to commence.
- 9.4.24. The construction traffic effects generated by the Proposed Development will be assessed at a future year of 2026, in accordance with the anticipated programme discussed within Chapter 5 of the ES. Future traffic flows in relation to the baseline traffic flows are presented at **Appendix 9.5**.

9.5. Embedded Mitigation

- 9.5.1. The embedded mitigation measures that have been integrated into the design of the Proposed Development are as follows:
- a. **Access locations:** the location of the proposed vehicle access points to the Solar PV Site has been identified through a review of the LRN to identify suitable locations in highway safety terms, including being sufficient to accommodate HGVs and the provision of appropriate visibility splays. The use of existing access points onto the LRN has been prioritised to minimise the environmental impacts associated with the creation of new points of vehicular access, such as the removal of hedgerows. Where there is not a reasonable access location within vicinity of the relevant area of the Solar PV Site, a new vehicle access has been provided that complies with all relevant highway safety requirements.
 - b. **Consolidation:** use of a centralised primary construction compound for deliveries to allow direct access to the Solar PV Site and reduce the need for larger deliveries to impact the LRN, as secured through the Outline Construction Travel Management Plan. From this centralised primary compound, the deliveries will be distributed out via smaller, local vehicles to the secondary construction compounds via the LRN and within the Order limits. This allows for extra control over the timings of any construction

deliveries, whereby arriving/departing vehicles can arrive in platoons to avoid the likelihood of two construction vehicles passing each other.

- c. **Internal routing:** internal access routes will be provided within the Order limits to minimise vehicles needing to use the LRN.
- d. **Vehicle routing:** construction vehicles will only utilise the permitted access routes, secured by a requirement in the DCO (by reference to the ***Outline Construction Traffic Management Plan***. **[EN010127/APP/7.11]**.
- e. **Permissive paths:** four new permissive paths will be created within the extent of the Order limits, which will improve permeability for non-motorised users. Further details on these permissive paths are outlined within outline Landscape and Ecological Management Plan **[EN010127/APP/7.9]**.
- f. **Highway improvements within the Order limits:** permanent improvements will be made to the junction of the A1621 and Uffington Lane, as well as the introduction of passing places along Uffington Lane to help facilitate two-way HGV flows (included in the Order limits), prior to the commencement of construction (such passing places to be removed post construction to minimise impacts to the affected verges some of which are located within a Local Wildlife Site), as secured through the ***Outline CTMP***). Further details on the mitigation measures are included within the supporting TA (***Appendix 9.4***).
- g. **Staff Shuttle:** a staff shuttle service will be deployed from the primary construction compound to transport staff to the relevant area where works are required, which will be subject to phasing, as secured through the ***Outline Travel Plan***.
- h. **Management Plans:** a number of outline management plans including an ***oCEMP***, an ***oCTMP*** and an ***outline Travel Plan*** have

been prepared in support of the DCO and will inform the development of final management plans prior to construction as secured by a DCO Requirement. These plans will help to mitigate the effects of the Proposed Development in terms of Highways and Access and secure the measures set out above.

9.6. Potential Effects

- 9.6.1. This section describes the potential Highways and Access effects during the construction, operation and decommissioning phases of the Proposed Development. The embedded mitigation measures as described within Chapter 5 of this ES and section 9.4 of this chapter, have been taken into account when considering the potential effects of the Proposed Development.
- 9.6.2. The environmental effects related to Highways and Access are considered to be associated primarily with construction traffic. Based on the information available, it is assumed that the decommissioning phase will be no worse than the construction phase. Impacts from this phase will be managed by the decommissioning traffic management plan secured by DCO Requirement.
- 9.6.3. The effects of the construction phase of the Proposed Development are discussed below with reference to the assessment methodology presented within **Appendix 9.2** and the links shown on Figure 9.2.
- 9.6.4. Whilst the assessments undertaken in this chapter capture the Highways and Access impacts associated with construction, namely construction vehicles, the other associated environmental impacts associated with construction works are addressed in the respective ES chapters.
- 9.6.5. The assessments undertaken allows for an assessment of trips from the SRN to the primary construction compound access, via the LRN. The assessment also accounts for the additional traffic impacts resulting from distributing materials from the primary construction compound to the

secondary construction compounds and vice versa. This includes links outside the scope of Route 1 and Route 3, namely the B1176 and Carlby Road that will be utilised to access the secondary compounds.

- 9.6.6. To capture this additional traffic from the primary construction compound to the secondary construction compounds, it will be assumed that 50% of all the HGV trips anticipated across the wider Order limits, equating to 27 additional two-way HGV trips, will be added onto all the relevant links.
- 9.6.7. As this scenario generates the most amount of traffic and is the most robust in terms of Highways and Access, it is proposed to only assess the environmental effects associated with this level of trip generation.
- 9.6.8. An assessment of the percentage impact of the anticipated levels of construction traffic associated with the Proposed Development in the future year of 2026 is provided at **Appendix 9.6**, with the associated environmental effects discussed below.

Severance

- 9.6.9. With the exception of Link 1 (Uffington Lane), the impact of the construction phase of the Proposed Development is likely to have an adverse, local, temporary and medium-term impact on severance of non-motorised users of the LRN (High Sensitivity) and PRow network, with an increase of up to 2% of the daily AADT, and 11% increase in the total number of daily HGVs along Ryhall Road (Links 4 and 5).
- 9.6.10. With respect to Link 1, it is noted that there is an increase of 48% in the total AADT. However, this is due to the link having very low levels of existing traffic (<400 AADT observed within the survey) and the link serving as the proposed primary construction compound access.
- 9.6.11. It is also considered that there are a minimal number of non-motorised user (High Sensitivity) desire lines across Link 1, as there are no destinations within this area that would act as trip attractors, above general

leisure use, for non-motorised user trips during operational hours of construction, meaning the change in severance will not be significant.

- 9.6.12. It is noted that there could potentially be changes to the severance of motorised users of the local highway network (Low Sensitivity) through temporary road closures or temporary traffic management; however, any changes would be temporary in nature and mitigated through appropriate signage and road diversions in accordance with the CTMP (secured via the oCTMP [EN010127/APP/7.11]).
- 9.6.13. In addition, it is acknowledged that there could be changes to the severance of users of the two PRowS, that would be impacted by the construction traffic associated with the Proposed Development. Any temporary changes to the PRow would be agreed with RCC and LCC and suitably mitigated through appropriate diversions in accordance with the measures set out within the oCEMP [EN010127/APP/7.6]. Therefore, even when considering the impact on Link 1, the effect on severance on non-motorised users is considered to remain non-significant overall.

Driver Delay

- 9.6.14. The construction phase of the Proposed Development is likely to have adverse, local, temporary and medium-term impacts on the driver delay of drivers (Low Sensitivity).
- 9.6.15. It was agreed with RCC, LCC and NH that no localised capacity assessments needed to be undertaken, as the impact of the Proposed Development fell below the threshold of 30 two-way vehicle movements during the morning (08:00-09:00) and evening (17:00-18:00) peak hour.
- 9.6.16. Due to the restrictions in the timings for construction vehicles and the arrangements for staff who will arrive and depart outside of the peak hours set out in the oCTMP; there will be no traffic impact on the morning and evening peak hours, when the local road network is generally the most congested.

- 9.6.17. With respect to Link 1 (Uffington Lane), whilst the construction phase of the Proposed Development will result in an increase of 48% to the AADT, it is considered that this uplift is due to the very low existing usage of Link 1.
- 9.6.18. Whilst the uplift in traffic flows may result in more delay than at present, it is not considered that this will be significant due to the low volumes of existing traffic and associated minimal delay that would take place at present.
- 9.6.19. In addition, it is noted that there could potentially be changes to driver delay of motorised users of the local highway network (Low Sensitivity) through temporary road closures or temporary traffic management; however, any changes would be short term and temporary in nature, being mitigated through appropriate signage and road diversions in accordance with the CTMP (secured via the oCTMP [EN010127/APP/7.11]).
- 9.6.20. On that basis, it is considered that the construction phase of the Proposed Development will have a non-significant effect on the driver delay of drivers.

Pedestrian Delay

- 9.6.21. The construction phase of the Proposed Development is likely to have adverse, local, temporary and medium term impact on pedestrian delay (High Sensitivity) for non-motorised users of the LRN and PRow, as the increase in vehicles may slow pedestrians (and horse riders or cyclists) (in terms of crossing permeability) and increase delay
- 9.6.22. With the exception of Link 1 (Uffington Lane), the construction phase of the Proposed Development will result in an increase of up to 2% of the daily AADT, and 5% increase in the total number of daily HGVs along Ryhall Road (Links 4 and 5) which is the greatest impact across the rest of the study area, which is regarded as a non-significant impact based on the thresholds set out within **Appendix 9.2**.

- 9.6.23. Across Link 1 (Uffington Lane), there will be an increase of up to 48% of the daily AADT. However, there are a minimal number of pedestrian desire lines across Link 1 during the operational hours of construction, and within the LRN as a whole, meaning the impact of this increase on Link 1 will be non-significant. This percentage change is also more apparent due to the link having very low levels of existing traffic (<400 AADT observed within the survey and <400 AADT within the Base 2026 year).
- 9.6.24. There may be changes in pedestrian delay to non-motorised users of the local highway network (High Sensitivity) through temporary road closures or temporary traffic management; however, any changes would be temporary in nature and mitigated through appropriate signage and alternative provisions for non-motorised users being made.
- 9.6.25. It is also acknowledged that there could be changes in pedestrian delay to users of the PRow and footways through Essendine, that would be impacted by temporary closures and diversions associated with the Proposed Development. Any changes to the PRow would be agreed with RCC and LCC and suitably mitigated through appropriate diversions to ensure there are no significant changes to pedestrian delay.
- 9.6.26. As a result, the construction phase of the Proposed Development is considered to result in a non-significant effect on pedestrian delay overall.

Pedestrian and Cyclist Amenity

- 9.6.27. The construction phase of the Proposed Development is likely to have adverse, local, temporary and medium term impacts on pedestrian and cyclist amenity of non-motorised users (High Sensitivity) of the LRN and PRow.
- 9.6.28. The construction phase of the Proposed Development will result in a change of well below the quarter threshold recommended within the IEMA GEART guidance, with a maximum increase in AADT of 2% on Ryhall Road (excluding Link 1, Uffington Lane).

- 9.6.29. Whilst the increase on Link 1 (Uffington Lane) exceeds this threshold, there are no key desire lines or provisions for pedestrians or cyclists across this link. Whilst there may be some associated recreational use of this link by pedestrians and cyclists, it is likely that this would be on an ad-hoc basis and outside of the typical proposed construction site working hours, as well as being influenced by other factors such as time of year and weather.
- 9.6.30. It is noted that there could be impacts to the amenity of PRoW users due to the construction traffic passing along short sections routes as shown on the Access and Rights of Way Plans **[EN010127/APP/2.4]**; however, this would be short term and managed through the appropriate provision of diversions and construction vehicle management as set out in the oCEMP.
- 9.6.31. There are also the three new permissive paths proposed across the Order limits which would improve connectivity for recreational non-motorised users of the LRN. There could be changes to amenity of non-motorised users through the provision of temporary road closures or temporary traffic management; however, any changes would be again temporary in nature and mitigated through appropriate signage and alternative provisions for non-motorised users being made to ensure amenity is not adversely impacted.
- 9.6.32. On that basis, it is considered that the construction phase of the Proposed Development will have a non-significant effect on Pedestrian and Cyclist Amenity overall.

Fear and Intimidation

- 9.6.33. The construction phase of the Proposed Development is likely to have adverse, local, temporary and medium term impacts on Fear and Intimidation.
- 9.6.34. Due to the rural nature of the Order limits, the majority of the LRN does not benefit from any footway provision, meaning non-motorised users are not

segregated from traffic. However, this also means the volume of non-motorised users using these routes is low, with the majority of non-motorised users trips likely associated with recreational activity outside of typical working hours and therefore outside of times where construction traffic from the Proposed Development would be operational.

- 9.6.35. There may be changes in Fear and Intimidation to non-motorised users the local highway network (High Sensitivity) through temporary road closures or temporary traffic management; however, any changes would be temporary in nature and mitigated through appropriate signage and alternative provisions for non-motorised users being made. It is also acknowledged that there could be changes in fear and intimidation to users of the PRoW, that would be impacted by the construction traffic associated with the Proposed Development. Any changes to the PRoW would be agreed with RCC and LCC and suitably mitigated through appropriate diversions to ensure there are no significant changes to Fear and Intimidation. As the construction phase of the Proposed Development will lead to a negligible increase in traffic movements across the majority of the LRN (excluding Link 1), the assessment methodology suggests this will lead to a non-significant effect on Fear and Intimidation overall.

Accidents and Road Safety

- 9.6.36. The construction phase of the Proposed Development is likely to have adverse, local, temporary and medium term impacts on Accidents and Safety.
- 9.6.37. A review of the accidents occurring over the most-recent three-year period has been undertaken in order to identify existing accident clusters across the construction routes to the Order limits. A cluster is considered to be identified where more than five accidents occurred over the three-year period within close proximity of the Order limits. This assessment is also discussed further within the supporting TA (**Appendix 9.4**).

- 9.6.38. The review revealed that none of the junctions or links located along the LRN within proximity of the Proposed Development had more than five accidents within the three-year period, with no collision clusters evident.
- 9.6.39. Construction traffic would only access the Solar PV Site via the proposed construction traffic routes and access points pursuant to the oCTMP, and will consequently avoid using inappropriate roads or other parts of the network that have identified constraints, where possible. Construction and HGV operator staff will also be appropriately trained to minimise the propensity for accidents to occur.
- 9.6.40. It is noted that the requirement for any temporary road closures or temporary traffic management may impact Accidents and Safety; however this would be temporary with management measures proposed through the CTMPs (secured by the oCTMP) to ensure there are no significant impacts. On that basis, and using professional judgement, it is considered that the construction phase of the Proposed Development would have a non-significant effect on Accidents and Safety.

Sensitivity Test - Road Closure

- 9.6.41. It is noted that as part of the enabling works to lay cabling, there may be a need for temporary partial or full road closures, particularly on Uffington Lane. As a sensitivity test, it is proposed to undertake an assessment of the displacement traffic impacts of closing Uffington Lane onto the LRN.
- 9.6.42. As part of this sensitivity test, it is assumed that all traffic that would typically route along Uffington Lane would instead route via the A6121 through Stamford. This sensitivity test is presented below in **Table 9-3**.

Table 9-3: Highways and Access - Road Closure Sensitivity Test

Road	Base 2026	
	Total Vehicles	HGV
Uffington Lane	390	48
A6121	7,290	485
A6121 (Uffington Lane Closed)	7,680	533
Percentage Impact	5%	9%

9.6.43. With the addition of all the traffic from Uffington Lane onto the A6121, there is an increase in 5% of the total vehicles and 9% on the total HGVs.

9.6.44. This impact is considered as non-significant across all the effects identified above and well within the magnitude of change thresholds identified within **Appendix 9.2.**

9.7. Proposed Additional Mitigation

9.7.1. No additional mitigation is required.

9.7.2. Whilst not related to construction, as discussed above a Decommissioning Traffic Management Plan (DTMP) will be secured via the oDEMP **[EN010127/APP/7.8]** and provided in the future once details on the decommissioning phase are available, which will focus on the traffic impacts and traffic management measures to be associated with the decommissioning phase. The DTMP will be agreed with the Local Planning Authorities prior to the commencement of the decommissioning phase.

9.7.3. In advance of the DTMP being available and to set out the principles as to how the decommissioning phase will initially be mitigated and managed, an Outline Decommissioning Environmental Management Plan (oDEMP) has been prepared in support of the DCO Application.

9.8. Residual Effects

- 9.8.1. The embedded mitigation proposed is considered to be sufficient so as to ensure that the residual environmental effects remain non-significant.

9.9. Monitoring Requirements

- 9.9.1. Ongoing monitoring of construction traffic and staff travel matters will be undertaken pursuant to future iterations of the CTMP and TP, that are secured by way of a DCO requirement. This will ensure that the impacts of the Proposed Development will remain non-significant.

9.10. Cumulative Effects

- 9.10.1. From a Highways and Access perspective, there are no relevant existing or approved developments to consider in relation to the cumulative effects from the Proposed Development due to the limited overlap in construction programme and construction vehicle routing
- 9.10.2. In any event, the traffic associated with these cumulative developments are accounted for within the TEMPRO growth factors and assessment undertaken in the Base 2026 model.
- 9.10.3. Chapter 16: Interaction of Effects and Summary of Cumulative Effects' of the ES considers whether any intra project effects to receptors arising from traffic impacts and impacts assessed in other chapters of the Environmental Statement, arise as a result of the Proposed Development.

9.11. Conclusion

- 9.11.1. The Proposed Development will generate additional vehicles on the network during the construction and decommissioning phase that would have the potential to have the following environmental effects:
- a. Severance;
 - b. Driver Delay;
 - c. Pedestrian Delay;

- d. Pedestrian and Cyclist Amenity;
- e. Fear and Intimidation;
- f. Accidents and Road Safety; and
- g. Hazardous Loads.

9.11.2. Embedded mitigation has been comprehensively considered and factored into the design development of the Proposed Development, with mitigation including the provision of a consolidation strategy for deliveries, strict routing and management for construction vehicles, a shuttle service and highway improvements within the Order limits.

9.11.3. The assessment indicates that there is the potential for adverse effects. However, these would be local, temporary and medium-term and not significant.

9.11.4. Overall, the environmental effects of the Proposed Development would be non-significant from a Highways and Access perspective.

Table 9-4: Highways and Access -Summary of Effects

Description of Effect/Activity	Nature of Effect	Receptor	Value of Receptor	Embedded Mitigation Measures	Magnitude of Impact	Potential Significance of Effect	Additional Mitigation Measures	Residual Effect Significance	Monitoring Requirement
Construction Phase									
Severance	Adverse, Local, Temporary, Medium term	NMUs having to cross local road network	High	Adherence to routes, vehicle routing, (including internal routing) and measures within CTMP.	Negligible	Negligible (non-significant)	None	Negligible (non-significant)	None
Driver Delay	Adverse, Local, Temporary, Medium term	Drivers of motor vehicles	Low	Adherence to CTMP and improvements within the Order limits such as	Negligible	Negligible (non-significant)	None	Negligible (non-significant)	None

Description of Effect/Activity	Nature of Effect	Receptor	Value of Receptor	Embedded Mitigation Measures	Magnitude of Impact	Potential Significance of Effect	Additional Mitigation Measures	Residual Effect Significance	Monitoring Requirement
				passing places.					
Pedestrian Delay	Adverse, Local, Temporary, Medium term	NMUs using local highway network	High	Adherence to routes within CTMP and reductions in vehicles through consolidation	Negligible	Negligible (non-significant)	None	Negligible (non-significant)	None
Fear and Intimidation	Adverse, Local, Temporary, Medium term	NMUs using local highway network	High	Adherence to routes, vehicle routing, (including internal routing) and measures within CTMP	Negligible	Negligible (non-significant)	None	Negligible (non-significant)	None

Description of Effect/Activity	Nature of Effect	Receptor	Value of Receptor	Embedded Mitigation Measures	Magnitude of Impact	Potential Significance of Effect	Additional Mitigation Measures	Residual Effect Significance	Monitoring Requirement
Accidents and Safety	Adverse, Local, Temporary, Medium term	All receptors	High	Adherence to CTMP and improvements within the Order limits such as passing places.	Negligible	Negligible (non-significant)	None	Negligible (non-significant)	None
Decommissioning Phase									
Severance	Adverse, Local, Temporary, Medium term	NMUs having to cross local road network	High	Adherence to routes, vehicle routing, (including internal routing) and	Negligible	Negligible (non-significant)	Measures within the outline DEMP and DTMP	Negligible (non-significant)	None

Description of Effect/Activity	Nature of Effect	Receptor	Value of Receptor	Embedded Mitigation Measures	Magnitude of Impact	Potential Significance of Effect	Additional Mitigation Measures	Residual Effect Significance	Monitoring Requirement
				measures within CTMP.					
Driver Delay	Adverse, Local, Temporary, Medium term	Drivers of motor vehicles	Low	Adherence to CTMP and improvements within the Order limits such as passing places.	Negligible	Negligible (non-significant)	Measures within the outline DEMP and DTMP	Negligible (non-significant)	None
Pedestrian Delay	Adverse, Local, Temporary, Medium term	NMUs using local highway network	High	Adherence to routes within CTMP and reductions in vehicles through consolidation	Negligible	Negligible (non-significant)	Measures within the outline DEMP and DTMP	Negligible (non-significant)	None

Description of Effect/Activity	Nature of Effect	Receptor	Value of Receptor	Embedded Mitigation Measures	Magnitude of Impact	Potential Significance of Effect	Additional Mitigation Measures	Residual Effect Significance	Monitoring Requirement
Fear and Intimidation	Adverse, Local, Temporary, Medium term	NMUs using local highway network	High	Adherence to routes, vehicle routing, (including internal routing) and measures within CTMP	Negligible	Negligible (non-significant)	Measures within the outline DEMP and DTMP	Negligible (non-significant)	None
Accidents and Safety	Adverse, Local, Temporary, Medium term	All receptors	High	Adherence to CTMP and improvements within the Order limits such as passing places.	Negligible	Negligible (non-significant)	Measures within the outline DEMP and DTMP	Negligible (non-significant)	None

Description of Effect/Activity	Nature of Effect	Receptor	Value of Receptor	Embedded Mitigation Measures	Magnitude of Impact	Potential Significance of Effect	Additional Mitigation Measures	Residual Effect Significance	Monitoring Requirement
Hazardous Loads	Adverse, Local, Temporary, Medium term	All receptors	High	Hazardous loads not required.	Negligible	Negligible (non-significant)	None.	Negligible (non-significant)	None

9.12. References

Ref 9-1 Institute of Environmental Assessment (IEA). Guidelines for the Environmental Assessment of Road Traffic. (1993).

Ref 9-2 Department for Transport (DfT). Transport Analysis Guidance M1.2: Data Sources and Surveys. (2020).

