# Tween Bridge Solar Farm

## Environmental Statement
## Chapter 12: Transport and Access

**Planning Act 2008**
**Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009**

**APFP Regulation 5(2)(a)**

**Document Reference: 6.2.12**

**~~July~~September 2026**

**Revision ~~3~~4**

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# 12. Transport and Access

## 12.1. Introduction

12.1.1. This **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 4~~3~~]** assesses the likely significant effects of the Scheme in terms of traffic and transport.

12.1.2. This assessment reports on the baseline and Scheme design information available at the time of writing this ES. The Scoping Opinion issued by the Planning Inspectorate on 13 March 2023 (see **ES Appendix 1.1 – Planning Inspectorate EIA Scoping Opinion [APP-057]**) and consultation responses (see summary of consultation at 12.1) have been taken into account during the preparation of this Chapter and this is discussed in detail below.

12.1.3. This chapter is supported by the following figure, which has been updated to add an additional public right of way, further to comment from City of Doncaster Council~~s~~:

- **ES Figure 12.1 Revision 2 – Indicative Access Strategy [Document Reference 6.4.12.1 Revision 2~~APP-164~~].**

12.1.4. This **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 3]** chapter is supported by the following appendices:

- **Appendix 12.1 - Transport Statement [APP-111]**
- **Appendix 12.2 Revision 3 - Summary of Sensitive Receptors [~~REP3-024~~Document Reference 6.3.12.2 Revision 3]**
- **Appendix 12.3 – Baseline Traffic Survey Report [APP-113]**
- **Appendix 12.4 - Proposed Access Arrangements [REP3-026]**

12.1.5. An **Outline Construction Traffic Management Plan (CTMP)** is provided within Volume 7 of this ES **[Document Reference 7.7 Revision 5~~REP3-041~~].**

12.1.6. Revision ~~3~~4 of this ES chapter has been updated to add an additional assessment link; the A161 between M180 Junction 2 and the A18. ~~provide further consideration of the temporary diversion of public right of way (PRoW) CROW21~~

~~during the construction phase. CROW21 follows Crook O'Moor Road within Land Parcel B, to the west of Crowle.~~

## 12.2. Consultation

12.2.1. This **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision ~~3~~4]** has been informed by consultation responses received to date as part of scoping, non-statutory consultation and statutory consultation.

12.2.2. The following transport and access comments were provided in the Planning Inspectorate Scoping Opinion issued by the Planning Inspectorate dated 13 March 2023 (see **ES Appendix 1.1 – Planning Inspectorate EIA Scoping Opinion [APP-057]**).

**Table 12-1: Summary of Consultation - Scoping Opinion for the Scheme**

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| 2.1.2 | Paras 2.9 and 2.23 | Temporary roadways | The ES should describe the type of temporary roadways required, along with their anticipated location and duration of use. Any likely significant effects resulting from their installation, use and removal should be assessed. | Temporary access tracks will be provided internal of the land parcels shown on **ES Figure 12.1** Revision 2 **- Indicative Access Strategy [**Document Reference 6.4.12.1 Revision 2~~APP-164~~**]** and are anticipated to be removed by 2033 (one year after the site becomes fully operational). This is set out at paragraphs 3.16 and 3.17 of the **Outline CTMP [~~REP3-~~ Document Reference 7.7 Revision 5~~041~~].**<br><br>The **Outline CTMP [~~REP3-~~**Document |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | | Reference 7.7 Revision 5~~041~~] has been updated as the Scheme has progressed and in response to consultation.<br><br>Where relevant, any likely significant effects resulting from the installation, use and removal of the access points and internal tracks are assessed in **ES Chapter 6 Landscape and Visual [~~REP2-033~~REP4-021]** |
| 2.1.3 | Paras 2.10 and 2.27 to 2.28 | Management and maintenance | The ES should describe the potential scope and duration of maintenance works that would be required during the operation of the Proposed Development, including predicted vehicle movements and staffing numbers.<br><br>Proposals for maintaining | The potential works required during the operational phase and predicted number of vehicle movements associated with the operational phase are set out at **Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 4~~3~~]** and in the Transport Statement at **Appendix 12.1** [**APP-** |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | vegetation around easements and the Public Rights of Way (PRoW) within the application site should also be described. | **111]** at paragraph 5.4.9 and 12.4.10.<br><br>Details of PRoW routes are confirmed in **ES Chapter 6 Landscape and Visual [~~Document Reference 6.2.6 Revision 4~~REP4-021]**, and maintenance of vegetation is secured through the **Outline Landscape Ecological Management Plan [Document Reference 7.6 Revision ~~5~~6].** |
| 2.1.12 | Paras 2.23 to 2.25 | Construction compound(s) | The ES should confirm the locations and sizes of the main construction compound and smaller compounds and where possible, show detailed layouts. Any mitigation measures proposed to avoid or minimise impacts relating to the use of compounds should be described in the ES. | The location of the construction compounds including indicative sizes is shown on the site layout at **ES Figure 2.2a – Indicative Operational Layout Plan (Fixed Solar Panel)/2.2b – Indicative Operational Layout Plan (Fixed and Tracker Solar Panel) [CR1-018/CR1-019].** Consideration of the |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | | effect of construction traffic accessing the construction compounds is provided at **Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12, Revision 43].**<br><br>Mitigation associated with the movement of traffic to and from the construction compounds is set out at Chapter 6 of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5].** |
| 2.1.17 | n/a | Vehicle movements | The ES should detail the number of anticipated vehicle movements during all phases of the Proposed Development and explain the assumptions upon which these have been established. | **Section 12.5 of this ES Chapter 12 Transport and Access [Document Reference 6.2.12, Revision 43]** and the **Outline CTMP [~~REP3-~~Document Reference 7.7 Revision 5~~041~~]** sets out the anticipated number of vehicle movements per day for |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | | construction vehicles delivery plant and materials to the Scheme.<br><br>The trips associated with operational traffic are included a**t Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision ~~3~~4]** and in the Transport Statement at **Appendix 12.1 [APP-111]**.<br><br>**Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision ~~3~~4]** considers the anticipated number of vehicle movements associated with the Decommissioning phase. |
| 2.2.4 | n/a | Study area(s) | The ES should, for each aspect chapter, clearly define and justify the study area(s) used for the | The study areas have been agreed through scoping discussions as is indicated by the construction traffic |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | assessment of effects from the Proposed Development alone and cumulatively with other development. The study area(s) should be represented on accompanying figures. | routes on **ES Figure 12.1** Revision 2 **Indicative Access Strategy [**Document Reference 6.4.12.1 Revision 2~~APP-164~~**].** |
| 3.11.1 | Paras 2.29, 10.14 and 10.15 | Impact on pedestrians (severance, delay, amenity and fear/ intimidation) | Paragraph 10.14 of the Scoping Report proposes that due to the limited number of pedestrians anticipated within the vicinity of the site, impacts to pedestrians in terms of severance, delay, amenity and fear/ intimidation will not be assessed.<br><br>The Inspectorate is content that this matter can be scoped out for the operational phase, but not in relation to construction and decommissioning. The temporary diversion or stopping up of a PRoW | Usage surveys of the PRoW routes within the Order Limits were carried out by an independent surveyor on Thursday 16 and Saturday 18 May 2024. The location of the surveys was discussed with North Lincolnshire Council Public Right of Way officers and the dates were considered to be representative (one weekday and one weekend day) of typical use during dry months with longer hours of daylight. Further details are provided at **Section 12.4** of this **ES Chapter 12 Transport** |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | (Doncaster footpath Thorne 19) may be required during construction and decommissioning and the reference to a "limited number" of pedestrians has not been quantified.<br><br>The ES should assess impacts to users of PRoW or other recreational routes (including severance, delay, amenity and fear/ intimidation) during construction and decommissioning which are likely to result in significant effects. Any such assessment should be supported by pedestrian/ user counts where possible, with effort made to agree the locations for such counts with relevant consultation bodies.<br><br>Where relevant, the ES should assess potential interactions between aspect assessments (for | **and Access [Document Reference 6.2.12 Revision ~~3~~4]** and at **Appendix 12.3 – Baseline Traffic Survey Report [APP-113].**<br><br>The impacts to users of the PRoW is considered at **Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 4~~3~~].**<br><br>Details on noise, dust and visual impact on pedestrians are provided within the **ES Chapter 6 Landscape and Visual Impact Assessment [~~Document Reference 6.2.6 Revision 4~~REP4-021] and Chapter 13 Noise and Vibration [REP4-017]~~2-023, REP2-024~~.** |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | example traffic and transport, noise, dust, recreation and visual impact).<br><br>The locations of any diversions or closures should be illustrated on suitable figures in the ES. | |
| 3.11.2 | Paras 2.24 and 10.7; Appendix 10.1 | Access routes | The ES should describe the proposed site entrance/s and the routes to be used for all vehicular access during construction and operation of the Proposed Development and this information should be clearly presented on supporting plans within the ES.<br><br>The ES should describe and assess the potential impacts (both positive and negative) associated with any improvements/ changes to the access routes which are either required to facilitate | The proposed access arrangements and construction traffic routing is set out at **Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 43]** and in detail in the **Outline CTMP [~~REP3-04~~Document Reference 7.7 Revision 5~~1~~]**.<br><br>The potential impacts of traffic flows on routes to the site are set out at **Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 43].** |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | construction of the Proposed Development or are required for restoration purposes on completion of the works. For the assessment of impacts during construction the ES should explain how the proposed access route(s) relate to sensitive receptors. | The potential impacts of the access points are considered in **ES Chapter 6 Landscape and Visual Impact Assessment [~~Document Reference 6.2.6 Revision 4~~REP4-021] and Chapter 13 Noise and Vibration [REP4-017~~2-023, REP2-024~~].**<br><br>Sensitive receptors relating to the access routes are set out in **Appendix 12.2 Revision 3- Summary of Sensitive Receptors [~~REP3-~~Document Reference 6.3.12.2 Revision 3~~024~~].** |
| 3.11.3 | Paras 10.4 to 10.6 | Baseline | The Scoping Report states that the Transport and Access ES chapter would consider baseline transportation conditions including traffic flows and highways safety. The ES should describe | The baseline environment, including traffic flows, highway safety, PRoW user counts, existing land uses and existing site access are set out in **Section 12.4** of this **ES Chapter 12 Transport and Access [Document** |

| ID | REF | MATTER | PLANNING INSPECTORATE COMMENTS | APPLICANT'S RESPONSE |
|---|---|---|---|---|
| | | | the baseline environment in full including pedestrian/ user counts (see above), existing land uses and existing site access. | **Reference 6.2.12 Revision ~~3~~4]** and in the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**. |
| 3.11.4 | Para 10.8 | Construction Traffic Management Plan (CTMP) | A draft/ outline copy of the CTMP should be appended to the ES. | An **Outline CTMP** is provided under separate cover **[~~REP3-041~~Document Reference 7.7 Revision 5]**. |
| 3.11.5 | n/a | Study area | The ES should explain how the study area for the Transport and Access ES assessment has been defined, with reference to the extent of the likely impacts. | The study area has been agreed with the highway authorities and is set out **Section 12.3** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision ~~3~~4]** and on **ES Figure 12.1 Revision 2 Indicative Access Strategy [Document Reference 6.4.12.1 Revision 2~~APP-164~~]**. |

12.2.3. A summary of non-statutory consultation responses received is provided in **Table 12-2.**

**Table 12-2: Summary of non-statutory consultation**

| CONSULTEE | SUMMARY OF CONSULTEE RESPONSE | HOW RESPONSE HAS BEEN ADDRESSED BY APPLICANT |
|---|---|---|
| City of Doncaster Council ("CDC") | Noted the scoping email regarding proposed traffic assessment locations. | Automatic Traffic Count surveys have been conducted in line with the proposed scope. These are submitted at **Appendix 12.3 – Baseline Traffic Survey Report [APP-113].** |
| North Lincolnshire Council ("NLC") | Confirmed that proposed locations for traffic surveys are acceptable. | Automatic Traffic Count surveys have been conducted in line with the proposed scope. These are submitted at **Appendix 12.3 – Baseline Traffic Survey Report [APP-113]** |
| NLC | Advised that NLC are likely to have concerns about the site being accessed from the A161/Cross Street junction in Crowle. There are concerns regarding the turning manoeuvre for large vehicles at the A161/Cross Street junction within Crowle. This is due to the radius of the bellmouth and the propensity for on-street parking within the vicinity of the junction. Therefore, alternative construction routes are to be considered. These include:<br><br>a) The A161 > Godnow Road > Windsor Road > Marsh Road; and | An assessment of the construction traffic routes to Land Parcel B is included at **Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision ~~3~~4].** The **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** provides further details on access and routing for construction traffic, including those routes via Crowle, and sets out how arrivals and departures of construction vehicles will be managed.<br><br>The forecast number of HGV movements that are |

| CONSULTEE | SUMMARY OF CONSULTEE RESPONSE | HOW RESPONSE HAS BEEN ADDRESSED BY APPLICANT |
|---|---|---|
| | b) The A161 > Hazel Avenue > Brewery Road > Northmoor Road > Rainsbutt Road (for which you have kindly provided a PDF detailing this route). Although this route would fall short of the red line boundary, we will consider the viability of using this route before accessing Moor Road/Newbigg > Commonside > Marsh Road.<br><br>A request for a more precise number of HGV movements into land parcel B is made, and a swept path assessment is to be provided for vehicles using the unnamed road which is proposed to serve access to land parcel P. This is the road that routes between the A161 south of the Crowle roundabout in the east and High Levels Bank in the east. Consideration should also be given to temporary mitigation on this road on the basis that it is a singletrack carriageway, to assist with conflicting vehicles.<br><br>It is considered that access to the land parcels served from the A18 should be acceptable, providing the arrival and departures of construction | anticipated per day to Land Parcel B is set out at **Section 12.5** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 4~~3~~].** The vehicle movements are forecast to be low in real terms.<br><br>A summary of the mitigation proposed is set out in **Section 12.6** of this **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 4~~3~~]** and is also set out in detail the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**, including management measures for accesses off the A18**.** |

| CONSULTEE | SUMMARY OF CONSULTEE RESPONSE | HOW RESPONSE HAS BEEN ADDRESSED BY APPLICANT |
|---|---|---|
| | vehicles are managed properly. | |
| NLC | Request to agree the scope for Non-Motorised User surveys in February 2024. | Non-Motorised User surveys were agreed to be carried out in Spring/Summer seasons. The location of the surveys was discussed with NLC PRoW officers, and the dates were agreed to be representative (one weekday and one weekend day) of typical use during dry months with longer hours of daylight. The surveys were carried out by an independent surveyor on Thursday 16 and Saturday 18 May 2024. These are submitted at **Appendix 12.3 – Baseline Traffic Survey Report [APP-113].** |

12.2.4. A summary of statutory consultation responses received is provided in **Table 12-3.**

**Table 12-3: Summary of statutory consultation**

| CONSULTEE | SUMMARY OF CONSULTEE RESPONSE | HOW RESPONSE HAS BEEN ADDRESSED BY APPLICANT |
|---|---|---|
| Lincolnshire County Council | Confirms that it is pleased to see that construction traffic to site will route via | The Applicant thanks Lincolnshire County Council for its response and notes the representation made. As |

| CONSULTEE | SUMMARY OF CONSULTEE RESPONSE | HOW RESPONSE HAS BEEN ADDRESSED BY APPLICANT |
|---|---|---|
| | the Strategic Road Network where possible. | set out in **Section 12.5 of ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 4~~3~~] and** the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**, all construction deliveries will utilise the M180 and/or M18 to access the roads leading to the Scheme. |
| NLC | Concerns raised over access to Land Area B, although it notes that the number of additional daily vehicle movements will be low and will occur outside of peak hours.<br><br>Comments provided on accesses located within NLC jurisdiction. | The construction access route to Land Parcel B (see **ES Figure 1.2 Land Parcel Plan [APP-130]**) has been discussed with NLC highway officers, with the route now proposed at **Section 12.5 of ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 4~~3~~]** as recommended by the officer. This will be secured by requirement via the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5].**<br><br>Movements through Crowle to Land Parcel B would be strictly managed and would be timed to avoid the peak hours on the highway network and the busiest times of the school day. This is set out in detail in the |

| CONSULTEE | SUMMARY OF CONSULTEE RESPONSE | HOW RESPONSE HAS BEEN ADDRESSED BY APPLICANT |
|---|---|---|
| | | **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5].** |
| CDC | Notes that the proposed access points do not meet the design standards of the Design Manual for Roads and Bridges ("DMRB").<br><br>Notes that the access designs do not provide typical construction details.<br><br>States that the access points can only be progressed by entering into a Section 278 agreement, although notes that this could be included within the DCO.<br><br>States that it is important that the site is suitably constructed and fit for purpose, with concerns raised with regard to the use of matting close to the adopted highway. | The majority of access points utilise existing agricultural access points that are not to DMRB standard. Where new accesses are to be created, no accesses proposed are from a trunk road, which DMRB standards typically apply to. Swept path assessments, management and mitigation is set out in the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5].** This confirms that the proposed site access points are shown to function effectively during the construction phase. Once operational, the access points will not be associated with any intensification over and above the current uses.<br><br>Temporary matting will not be proposed, as set out in the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5].**<br><br>Construction details of the accesses will be provided as part of the CTMP post consent which will be secured as a Requirement. |

| CONSULTEE | SUMMARY OF CONSULTEE RESPONSE | HOW RESPONSE HAS BEEN ADDRESSED BY APPLICANT |
|---|---|---|
| | | The Street Works, Access and Public Rights of Way Plan [Document Reference 2.4] identifies where these access works may be undertaken, and the works would be authorised under the DCO rather than via a s278 agreement. |
| National Highways ("NH") | Acknowledges that M180 Junctions 1 and 2 and M18 Junctions 5 and 6 may be used by vehicles routing to the Scheme and NH will therefore need to understand the likely traffic impact of the proposals on the Strategic Road Network (SRN).<br><br>It is expected that Personal Injury Collision (PIC) data is collected for the Strategic Road Network at tM18 Junctions 5 and 6 and M18 Junctions 1 and 2, covering the most recent five-year period.<br><br>Require the timings of vehicle movements to ensure that construction vehicles operate outside of the SRN's peak hours. | The **Outline CTMP [~~REP3–041~~Document Reference 7.7 Revision 5]** confirms that deliveries will not occur during the network peak hours. All traffic associated with Land Parcel A will utilise M18 junction 6, Land Parcel C and D will utilise the M18 junction 5, Land Parcels B and E will utilise M180 junction 2.<br><br>The PIC records have been collected for the SRN and are summarised in **Section 12.4 of ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision ~~3~~4]**, with further detail included within **Appendix 12.1 – Transport Statement [APP-111]**.<br><br>Restrictions on timings of vehicle movements to avoid the peak hours of operation of the SRN are set out in the |

| CONSULTEE | SUMMARY OF CONSULTEE RESPONSE | HOW RESPONSE HAS BEEN ADDRESSED BY APPLICANT |
|---|---|---|
| | | **Outline CTMP [~~REP3–041~~Document Reference 7.7 Revision 5].** |

## 12.3. Assessment Approach

### Methodology

12.3.1. The transport and access assessment has considered the impacts of traffic generated by the Scheme on the local highway network in the vicinity of the Site during the construction, operation and decommissioning phases. It also considers the Order Limits in consideration of the local public right of way (PRoW) network. It has been carried out in accordance with the Institute of Environmental Management and Assessment (IEMA, now Institute of Sustainability and Environmental Professionals (ISEP)) Guidelines: Environmental Assessment of Traffic and Movement' document, (referred to as the 'IEMA traffic guidelines' throughout this chapter) **[Ref. 12-1]**.

12.3.2. The pertinent issues for the ES in terms of transportation are the magnitude and consequences of changes at highway links affected by construction traffic within the study area (comprising the construction traffic routes to the Scheme) as a result of the construction and operational phases of the development. With reference to the categories listed in the IEMA guidelines, the impacts assessed are as follows:

- Severance of communities;
- Road vehicle driver and passenger delay;
- Non-motorised user delay;
- Non-motorised user amenity;
- Fear and intimidation on and by road users; and
- Road user and pedestrian safety;

- Hazardous loads / large loads.

Determining the Magnitude and Significance of Environmental Impacts

12.3.3. There are four levels of impact magnitude considered which are negligible, low, medium, and high.

12.3.4. The IEMA traffic guidelines sets out two rules to be considered when assessing the impact of development traffic on a highway link as follows:

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

12.3.5. The 30% threshold is based upon research and experience and the IEMA traffic guidelines suggests that less than a 30% increase results in imperceptible changes in the environmental effects of traffic, apart from in sensitive locations.

12.3.6. Definitions of magnitude have been based on the IEMA traffic guidelines and are shown in **Table 12-4.**

**Table 12-4: Criteria for magnitude of impact**

| Impact | Magnitude of Impact / Threshold | | | |
|---|---|---|---|---|
| | Negligible | Low | Medium | High |
| Road Safety | IEMA traffic guidelines suggests that accident and safety impacts can be assessed by reviewing collision data to identify any emerging patterns or factors that could be exacerbated by traffic or movement generation. | | | |
| Severance | Change in peak or 24 hr traffic within | Change in peak or 24 hr traffic within study | Change in peak or 24 hr traffic within | Change in peak or 24 hr traffic within study area |

| Impact | Magnitude of Impact / Threshold | | | |
|---|---|---|---|---|
| | Negligible | Low | Medium | High |
| | study area by less than 30% | area of 30%- 60% | study area of 60% - 90% | by 90% or more |
| Driver and Passenger Delay | Change in peak or 24 hr traffic within study area by less than 5% | Change in peak or 24 hr traffic within study area between 5% and 15% | Change in peak or 24 hr traffic within study area between 15% and 30% | Change in peak or 24 hr traffic within study area by 30% or more |
| Non-motorised user Delay | The guidance recommends that professional judgement is used to determine the impact on Pedestrian Delay, considering local factors such as pedestrian activity, visibility, and the physical conditions of the site. | | | |
| Non-motorised user Amenity | Pedestrian Amenity is impacted by traffic flow, composition and width of pavement and is related to fear and intimidation thresholds. As suggested by national guidance a threshold of where traffic or HGV flows have halved or doubled will be used to indicate whether there is a significant effect. | | | |
| Fear and Intimidation | The level of fear and intimidation is based on a degree of hazard score for both the with and without development scenarios. The step change difference between the scenarios results in the Magnitude of Impact as categorised below (see paragraph 12.3.7 for more details). | | | |
| | There is no change in steps between with | There is one step change in level with: <400 vehicle | There is one step change in level but with: | Two step changes in level |

| Impact | Magnitude of Impact / Threshold | | | |
|---|---|---|---|---|
| | Negligible | Low | Medium | High |
| | and without development. | increase in average 18 hour two-way flow and /or <500 HGV increase in total 18 hour HGV flow. | >400 vehicle increase in average 18 hour two-way flow and /or >500 HGV increase in total 18 hour HGV flow. | |

12.3.7. The effects on fear and intimidation are based upon a degree of hazard score determined using:

- Average traffic flow over 18 hour day (all vehicles/hour 2-way).
- Total 18-hour heavy vehicle flow; and
- Average vehicle speed.

12.3.8. The degree of hazard thresholds from the IEMA traffic guidelines are set out below.

**Table 12-5: Fear and intimidation: degree of hazard**

| Average traffic flow over 18 hour day (all vehicles/hour 2-way) (a) | Total 18-hour heavy vehicle flow (b) | Average vehicle speed (c) | Degree of hazard score |
|---|---|---|---|
| >1,800 | >3,000 | ->40 | 30 |
| 1,200 – 1,800 | 2,000 – 3,000 | 30 – 40 | 20 |

| Average traffic flow over 18 hour day (all vehicles/hour 2-way) (a) | Total 18-hour heavy vehicle flow (b) | Average vehicle speed (c) | Degree of hazard score |
|---|---|---|---|
| 600- 1,200 | 1,000 – 2,000 | 20 – 30 | 10 |
| <600 | <1,000 | <20 | 0 |

12.3.9. The total degree of hazard score is calculated by summing the score for each element (a, b and c) from **Table 12-5**. This enables a level of fear and intimidation is determined, which is set out in **Table 12-6.**

**Table 12-6: Level of Fear and intimidation**

| Level of fear and intimidation | Total hazard score (a) + (b) + (c) from Table 12.5 |
|---|---|
| Extreme | 71+ |
| Great | 41 – 70 |
| Moderate | 21 – 40 |
| Small | 0 - 20 |

12.3.10. A step change would be a change between a level of fear and intimidation (e.g., from Small to Moderate).

12.3.11. The impact magnitudes for each category listed in **Table 12-4** can have either a beneficial or adverse impact.

Receptor Sensitivity

12.3.12. The sensitivity of each the highway links has been determined using professional judgement and with reference to the IEMA traffic guidelines **[Ref 12-1]**.

12.3.13. User groups that may be affected by a change in conditions include non-motorised users, PRoW users, motorists and freight vehicles, public transport and the emergency services. Geographic locations are also considered including people at home, people at work, sensitive and vulnerable groups, locations with concentrations of vulnerable groups (such as schools and hospitals), retail areas, recreational areas, tourist attractions, collision clusters, and junction and highway links at or over capacity.

12.3.14. The sensitivity of receptors relating to transport and access are set out in **Table 12-7**.

**Table 12-7: Criteria for sensitivity of receptor**

| Receptor Sensitivity | Receptor Type |
|---|---|
| High | Receptors of greatest sensitivity to traffic flows, such as schools, playgrounds, accident blackspots, retirement homes, areas with no footways with high pedestrian footfall. |
| Medium | Traffic flow sensitive receptors, such as congested junctions, hospitals, shopping areas with active frontages, narrow footways, parks, and recreational areas. |
| Low | Receptors with some sensitivity to traffic flow, such as conservation areas, listed buildings, tourist attractions, and residential areas. |
| Negligible | Receptors with low sensitivity to traffic flows, and those distant from affected roads, such as rural roads which serve a small number of dwellings which are typically set back from the road. |

12.3.15. The identified sensitivity of each of the links is set out at **Appendix 12.2** Revision 3 **Summary of Sensitive Receptors [~~REP3–~~Document Reference 6.3.12.2 Revision 3~~024~~]**. Links with a High or Medium Sensitivity are considered to be sensitive for the purpose of this assessment.

Assessment of Significance

12.3.16. The Significance of Effect is determined by combining the predicted magnitude of impact with the assigned sensitivity of the receptor. The Significance of Effect is set out in **Table 12-8**.

12.3.17. The Significance of Effect thresholds can be categorised as beneficial (positive, i.e., reduction in traffic flows), negligible (no real impact) or adverse (negative i.e., increase in traffic flows). For the purpose of this chapter, major and moderate significance of effects are considered 'significant' in EIA terms, and minor to moderate significance of effects are considered 'not significant' in EIA terms, as indicated by the shading in **Table 12-8**.

**Table 12-8: Significance matrix**

| Magnitude of Change | Sensitivity of Receptor | | | |
|---|---|---|---|---|
| | **High** | **Medium** | **Low** | **Negligible** |
| **High** | Major | Major | Moderate | Negligible |
| **Medium** | Major | Moderate | Minor | Negligible |
| **Low** | Moderate | Minor | Minor | Negligible |
| **Negligible** | Negligible | Negligible | Negligible | Negligible |

12.3.18. Significance thresholds can also be categorised as temporary or permanent and can have an effect for the short, medium, or long term. The relevant definitions in terms of the longevity of the effect are set out below:

- A short-term effect – an effect that will be experienced for 0-5 years.
- A medium-term effect – an effect that will be experienced for 5-15 years; and
- A long-term effect – an effect that will be experienced for 15 years onwards.

**Legislative and Policy Framework**

12.3.19. The assessment has been undertaken in accordance with the following legislation.

- The Highways Act 1980 **[Ref. 12-2].**

12.3.20. As set out in **ES Chapter 2 Policy and Legislative Context [APP-039]**, the process for applying for a DCO is set out in the Planning Act 2008 **[Ref. 5-1]**. Under Section 104 of the Act, a decision must be made with regard to the relevant National Policy Statement (NPS), the local impact report, matters prescribed in relation to the Scheme and any other matters regarded as important and relevant. Following their designation on 17 January 2024, there are three NPSs which are considered to be 'relevant NPS' under Section 104 of the Act.

National planning policy

12.3.21. The proposals have also been considered in the context of the following national planning policy and guidance:

- Overarching National Policy Statement (NPS) for Energy (EN-1) 2024 - (Section 5.4 'Traffic and Transport') **[Ref. 12-3].**
- National Policy Statement for Renewable Energy Infrastructure (EN-3) 2024 - Section 2.10 'Solar Photovoltaic Generation') **[Ref. 12-4].**
- National Planning Policy Framework (2024) **[Ref. 12-5].**
- Planning Practice Guidance (2014) **[Ref. 12-6]**.

*National Policy Statements (NPS's)*

12.3.22. NPS EN-1 ('Overarching National Policy Statement for Energy') sets out guidance relating to traffic and transport at Section 5.14. Paragraph 5.14.5 states that an applicant's ES should include a transport appraisal. Paragraph 5.14.6 confirms that applicants should consult with National Highways and Highways Authorities as appropriate.

12.3.23. A transport appraisal of the Scheme has been provided in the form of a Transport Statement (**Appendix 12.1 - Transport Statement [APP-111]).** This has been undertaken in consultation with CDC, NLC and National Highways.

12.3.24. NPS EN-3 ('National Policy Statement for Renewable Energy Infrastructure') sets out guidance relating to access and the potential impacts and mitigations for construction traffic relating to new solar farms at Chapter 2.10. Paragraph

2.10.36 notes that solar farm sites are usually situated in rural areas and therefore access for the delivery of solar arrays and associated infrastructure during construction can be a significant consideration. The guidance suggests at paragraph 2.10.39 that applicants should assess the full extent of the potential access routes and their suitability for deliveries, and the mitigation measures that may be implemented by the Highway Authority or the Secretary of State. Paragraph 2.10.40 states that the impacts of PRoW routes should also be assessed.

12.3.25. It is noted that there has been a recent consultation on further updates to NPS EN-1 and EN-3. Whilst it is noted that a requirement for a transport appraisal is being removed and replaced with 'a vision for transport and an assessment of potential transport impacts' (draft NPS EN-1 paragraph 5.14.5), it is concluded that any changes would not have a bearing on the assessment of transport and access.

*National Planning Policy Framework (NPPF)*

12.3.26. In transport terms, the thrust of the National Planning Policy Framework (NPPF) is a presumption in favour of sustainable development (paragraph 10), that transport issues should be considered from the earliest stages of development proposals and to make the fullest use of public transport, walking, and cycling (paragraph 109) whilst noting that opportunities will vary between urban and rural areas (paragraph 110); to locate and design development to give priority to pedestrians and cycle movements, and have access to high quality public transport facilities (paragraph 117); ensuring safe and suitable access can be achieved for all (paragraph 115); and that development should only be refused on transport grounds where the residual cumulative impacts on the road network, following mitigation, would be severe (paragraph 116).

12.3.27. At paragraph 118 it states that '*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 vision-led transport statement or transport assessment so that the likely impacts of the proposal can be assessed and monitored.*'. When issuing the current version of the NPPF, the Government indicated that updated guidance will be provided alongside the NPPF in due course. As this will be an accompanying document it is not anticipated that the NPPF will change or that it will have a material effect on the assessment work undertaken in this ES. The accompanying document is not yet available.

12.3.28. The transport and access chapter and supporting appendices has been prepared in accordance with these policies.

Local Planning Policy

12.3.29. The proposals have also been considered in the context of the following local planning policy and guidance:

- Doncaster Local Plan 2015 – 2035 (adopted September 2021) **[Ref 12.-7]**
  - Policy 12: Strategic transport network (strategic policy).
  - Policy 13: Promoting sustainable transport in new development (strategic policy).
  - Policy 18: Development affecting public rights of way.
- The North Lincolnshire Local Development Framework, including Core Strategy (adopted June 2011) **[Ref. 12-8]**
  - Policy CS25: Promoting sustainable transport.
- North Lincolnshire Local Transport Plan **[Ref. 12-9]**
  - Local Transport Goal 2 - Improve transport safety and security relating to death or injury from transport, in order to contribute towards safer and stronger communities.

12.3.30. The transport and access chapter and supporting appendices has been prepared in accordance with these policies.

Guidance

12.3.31. The proposals have been considered in the context of the following guidance documents:

- The Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement (2023) **[Ref. 12-1]**
- National Highways - The Strategic Road Network and the Delivery of Sustainable Development (December 2022) **[Ref. 12-10].**

- Planning Practice Guidance - Travel Plans, Transport Assessments and Statements **[Ref. 12-11]**
- Manual for Streets (Department for Transport, 2007) **[Ref. 12-12].**
- Design Manual for Roads and Bridges, Standards for Highways **[Ref. 12-13].**

**Scoping Criteria**

12.3.32. This Transport and Access Chapter deals specifically with the transport and access issues pertinent to an EIA. This includes assessing the magnitude and consequences of changes in traffic flows on the local road network, including operational and safety impacts as a result of the Scheme, using the criteria set out in **Table 12-4** above.

12.3.33. Further to Scoping and Consultation (**Section 12.2 of this ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision 4~~3~~]**) all categories within the IEMA traffic guidelines **[Ref. 12-1]** are assessed within this chapter. No categories have been scoped out.

Extent of Study Area

12.3.34. The study area for transport and access was confirmed through the EIA Scoping process and comprises the roads which were anticipated to form the routes for construction traffic to the Scheme, including the M180 and M18 which form part of the strategic road network (SRN).

12.3.35. The links assessed are as follows:

- Link One - Marshland Road, north of the junction with The Avenue.
- Link Two - North Common Road, east of the junction with Mount Pleasant Road.
- Link Three - A614 Selby Road, south of the junction with North Common Road.
- Link Four - Marshland Road, north of the junction with Broadbent Gate Road.
- Link Five - Coulman Street, north of the Church Balk/Coulman Street/Moor Edges Road/Wike Gate Road Junction.

- Link Six - Moor Edges Road, east of the Church Balk/Coulman Street/Moor Edges Road/Wike Gate Road Junction.
- Link Seven - High Bridge Road, southeast of the junction with Moor Road.
- Link Eight - Green Bank Road, south of Clay Bank Road.
- Link Nine - A614, Tudworth Road, north of the Tudworth Roundabout.
- Link Ten - A18, High Levels Bank, east of the Tudworth Roundabout.
- Link Eleven - A18 Tudworth Road, south of the Tudworth Roundabout.
- Link Twelve - A18 High Levels Bank, east of the Black Bull Inn.
- Link Thirteen - A18 Tudworth Road, northeast of the junction with Sandtoft Road.
- Link Fourteen - Sandtoft Road, east of the junction with A18 Tudworth Road.
- Link Fifteen - Low Levels Bank, west of the junction with Moor Lane/Crow Tree Bank.
- Link Sixteen - A161 Eastoft Road, in between the Eastoft Road bus stop and the junction with Carr Lane.
- Link Seventeen - Wharf Road, near the Park View bus stops.
- Link Eighteen - A18 near Triangles Farm, southwest of Ealand.
- Link 19 - Marsh Road, west of the junction between Windsor Road/Cross Street.
- Link 20 – M18 North of Junction 6.
- Link 21 – M18 South of Junction 6.
- Link 22 – M180 East of M18 Junction 5.
- Link 23 – M180 West of Junction 2. ~~; and~~
- Link 24 – M180 East of Junction 2; and~~.~~

- Link 25 – A161 between M180 J2 and A18.

12.3.36. The delivery of Abnormal Indivisible Loads will be infrequent with no material impact forecast to the SRN or local highway network. The timing and routes of abnormal loads will be discussed and agreed with National Highways, CDC and NLC in due course. This is set out in the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**.

Layout Optionality

12.3.37. Two Options in the design layout are considered for a fixed and tracker design and fixed design with further details set out in **ES Chapter 2 – Scheme Description [APP-039]**. In transport and access terms, the two options for the design will not provide any difference in the assessment of impacts, significance of effect conclusion and/or mitigation measures as set out in this chapter. This is because the number and type of deliveries to the Scheme will not materially change as a result of the two options. Therefore the 'Assessment of Likely Effects' and 'Residual Effects' within this chapter assesses both design options as there is no material difference in the impacts to transport and access.

**Limitations to the Assessment**

12.3.38. The Applicant has confirmed that they are likely to construct only two Land Parcels at any one time. The peak construction period in transport and access terms would comprise the construction of Land Parcel C and Land Parcel E simultaneously, as these Land Parcels share sections of the proposed construction traffic route. However, for the purpose of this assessment it has been assumed that the entire Scheme could come forward at the same time as a robust case. This ensures that all potentially impacted highway links are considered and provides a robust assessment of the construction of the Scheme on the highway network.

12.3.39. The assessments are based upon a base year of 2023. This does not allow for any background traffic growth on the highway network between the time of the base surveys and the start of construction and therefore is a robust assessment of the likely traffic impacts. If background traffic growth was added to the 2023 base flows , this would increase the baseline flow and reduce the overall percentage impact of the Scheme. There are no ES effects in Transport and Access terms that are assessed based upon the cumulative

effect of base plus development traffic. The use of 2023 flows therefore provides the reasonable worst-case scenario, and this is why growth to background traffic has not been accounted for.

12.3.40. Whilst the port of entry for materials and equipment has not yet been confirmed, it has been assumed at this stage that this could be from Immingham port in the east (via the M180) or Goole port in the north (via the M18). No other limitations or difficulties have been identified.

## 12.4. Baseline Conditions

### Order Limits Description and Context

12.4.1. The Scheme is centred at approximately ten kilometres to the northeast of Doncaster and 14 kilometres to the west of Scunthorpe. The Scheme is split across the administrative boundaries of City of Doncaster Council (CDC) and North Lincolnshire Council (NLC). The location of the Order Limits (within which the Scheme will be delivered) in its wider geographical context is shown in **ES Figure 1.1 Order Limits [APP-129].**

12.4.2. The Order Limits comprises five separate Land Parcels (A-E) as illustrated at **ES Figure 1.2 Land Parcel Plan [APP-130]**, with a breakdown of the Land Parcels into Panel Areas within the Order Limits shown on **ES Figure 1.3 Development Parcel Plan [APP-131].** The Order Limits extend to approximately 1,831 hectares.

12.4.3. Full general details of the Order Limits context is found at **ES Chapter 3 - Site Description, Site Selection and Iterative Design Process [REP2-019, REP2-020].**

### Strategic Road Network

12.4.4. It is anticipated that all materials associated with the construction of the Scheme will use the Strategic Road Network (SRN) to access the local highway network, from which the Land Parcels are served. The SRN is managed by National Highways. A summary of the sections of the SRN which are closest to the site is provided below.

M18 (Links 20 and 21)

12.4.5. The M18 motorway routes between M1 Junction 32 in the northeast to M62 Junction 35 in the southwest. It is located to the west of Thorne, approximately 1.5 kilometres as the crow flies from the closest point of Land Parcel A. M18 Junction 6, the 'Waterside Roundabout', located to the northwest of Thorne, and Junction 5 (which connects to the M180), located to the southwest of Thorne, are the two closest SRN junctions to the Scheme.

M180 (Links 22, 23 and 24)

12.4.6. The M180 routes west to east between M18 Junction 5 and The Barnetby Interchange to the north of Barnetby Le Wold, approximately 14 kilometres west of Immingham, where it becomes the A180. The M180 Junction 1 (which connects to the A18 and the 'Tudworth Roundabout') and Junction 2 (which connects with the A161 with on/off slips) are located within the vicinity of the Scheme.

12.4.7. Renewal works to the M180 (between Junctions 2 and 3 in both directions) were announced in the Government's Road Investment Strategy (RIS3) funding in March 2026. These works will comprise the reconstruction of the existing concrete surface and are currently programmed to commence in 2028/2029 with completion in 2030.

**Local Highway Network**

12.4.8. A network of local roads connects the different Land Parcels as well as providing links to the wider local and strategic road networks. The road network is shown on Figure 2.1 within **Appendix 12.3 – Baseline Traffic Survey Report [APP-113].**

12.4.9. The roads summarised below form the traffic routes that will be used to deliver materials and personnel to the Scheme during its construction.

A18 (Links ten, eleven, twelve, thirteen, and eighteen)

12.4.10. The A18 is a single carriageway road which is approximately seven metres wide. It is subject to the National Speed Limit (60mph) and facilitates travel between the towns of Hatfield to the west and Scunthorpe to the east. It provides direct access to farmland along its extent. The section of the A18 within the vicinity of the Scheme is generally unlit. Streetlighting and footways are generally provided within the vicinity of local settlements.

A161 (Link sixteen, ~~and~~ seventeen and twenty-five)

12.4.11. The A161 is a single carriageway road which is approximately seven metres wide. It connects to the A18 via a gyratory junction to the south of Ealand, and can be used to join the M180 via Junction 2 in the south. The A161 passes through Crowle to the east of the Scheme. It is subject to varying speed limits along its length, with the National Speed Limit south of the A18 and 40mph and 30mph sections through Crowle.

Sandtoft Road (Link fourteen)

12.4.12. Sandtoft Road is a single carriageway road measuring around five to six metres in width. It is subject to the National Speed Limit and subject to a 7.5 tonne weight restriction, except for access. To the east it becomes Low Levels Bank Road and to the west it connects to the A18 via a priority junction. It provides direct access to farmland along its extent. There are no footways or street lighting provided.

Low Levels Bank (Link fifteen)

12.4.13. Low Levels Bank consists of a single carriageway measuring approximately five metres in width. It is subject to the National Speed Limit. To the east, it becomes Thorne Road and to the west it becomes Sandtoft Road. It provides direct access to farmland along its extent. There are no footways or street lighting provided.

Coulman Street (Link five)

12.4.14. Coulman Street is a single carriageway road that measures approximately seven to eight metres in width and is subject to a 30mph speed limit. It connects with King Edward/Marshland Road via a priority junction to the north and connects to Church Balk/Moor Edges Road and Wike Gate Road via a crossroad junction to the south.

12.4.15. A footway on the eastern side of the carriageway extends approximately 230 metres south of the King Edward/Marshland Road junction and a continuous footway routes along the western side of the carriageway. Street lighting is provided along its extent. It provides direct access to residential properties and industrial land uses along its extent.

Marshland Road (Links ones and four)

12.4.16. Marshland Road is a single carriageway urban street that measures approximately 6.5 to seven metres wide. It is subject to a 30mph speed limit. Footways are provided on both sides of the road, and it is lit. It provides direct access to residential properties, retail, leisure and industrial land uses along its extent.

12.4.17. Approximately 1.7 kilometres to the north of its junction with Coulman Street it crosses the Hull and Doncaster Branch Line railway via a level crossing where it becomes Moorends Road.

North Common Road (Link two)

12.4.18. North Common Road is a single carriageway road that measures approximately six metres wide. It reduces to a single lane over a ditch around 450 metres southwest of its junction with Marshland Road, although visibility along the road is good. It connects to Marshland Road in the east and Selby Road in the west, both via priority junctions.

Moor Edges Road (Link six)

12.4.19. Moor Edges Road is a single carriageway that measures approximately four metres wide and is subject to the National Speed Limit. To the west it becomes Church Balk, leading in to Thorne, and to the south it becomes High Bridge Road. It provides direct access to farmland and industrial land uses along its extent. There are no footways or street lighting provided.

High Bridge Road (Link seven)

12.4.20. High Bridge Road is a single carriageway road measuring approximately three to four metres in width. It is subject to the National Speed Limit. To the east it becomes Green Bank. To the west it becomes Moor Edges Road. High Bridge Road provides direct access to farmland and industrial land uses along its extent. There are no footways or street lighting provided. Approximately 480 metres to the south of Moor Edges Road, High Bridge Road crosses the South Humberside Main Line railway via a level crossing.

Green Bank (Link eight)

12.4.21. Green Bank is a single carriageway road measuring approximately four metres in width. It is subject to the National Speed Limit. To the north it narrows to three metres as it crosses over the Stainforth and Keadby Canal before connecting to High Bridge Road. To the south it connects onto the A18 via a priority junction. Where the road crosses the canal there is a 7.5 tonne weight restriction. It provides direct access to farmland along its extent.

Marsh Road (Link nineteen)

12.4.22. Marsh Road is an unmarked single carriageway that measures approximately four metres wide and currently serves a small number of dwellings and agricultural buildings. No footways are provided, and street lighting is provided at its north eastern extent only, within the vicinity of dwellings within Crowle.

12.4.23. To the southwest it becomes Crook O'Moor Road and to the northeast it forms the minor arm of a priority junction with Cross Street and Windsor Road.

12.4.24. Marsh Road is subject to the national speed limit which reduces to a 30mph speed limit approximately 90 metres southwest of the junction with Cross Street and Windsor Road. There are double yellow lines on both sides of the carriageway at this junction.

Crow Tree Bank

12.4.25. Crow Tree Bank is a single carriageway road measuring approximately six to seven metres wide. It is subject to the National Speed Limit. It connects onto High Levels Bank to the north and High Bridge Road to the south, both via priority junctions. It provides direct access to farmland and industrial land uses along its extent. A short section of footway extends south for approximately 60 metres from the High Levels Bank junction. There is no street lighting provided.

Clay Bank Road

12.4.26. Clay Bank Road is a single carriageway road measuring approximately three to four metres wide. It is subject to the National Speed Limit. It connects to Green Bank to the east and to South End/Double Bridges Road to the west via priority junctions. It provides direct access to farmland along its extent. There are no footways or street lighting provided.

Godnow Road

12.4.27. Godnow Road is a single carriageway residential road in the south of the built environment of Crowle that measures approximately 6.5 metres wide, serve directly from the A161. It has an approximate 20 metre wide bellmouth at its connection to the A161, with an approximate 15 metre taper on the southern side. It has a 30mph speed limit, with footways measuring between one and 1.5 metres provided on both sides of the carriageway street lighting also provided.

Windsor Road

12.4.28. Windsor Road is a single carriageway residential road in the west of the built environment of Crowle that measures approximately five metres wide, accessed from Godnow Road in the south and providing a connection to Marsh Road/Cross Street in the north. Footways measuring approximately one metre wide are provided on both sides of the carriageway, with street lighting also provided.

12.4.29. Approximately 100 metres south of the junction between Marsh Road/Cross Street/Windsor Road is Crowle Primary School. Warning signage indicating the school is nearby and that a reduction of the speed limit to 20mph 'when lights show' is present approximately five metres south of the junction between Marsh Road, Cross Street and Windsor Road. The School day runs from 08:30 until 15:00.

Informal Lanes/Farm Tracks

12.4.30. Due to the more rural nature of the Order Limits, some of the Panel Areas are accessed by smaller informal lanes and farm tracks including:

- Thorne Waste Drain Road.
- Moor Owners Road; and
- Crook O'Moor Road

12.4.31. These roads consist of rural lanes within the Order Limits with no kerbs, footways or street lighting. They generally measure around four metres in width.

12.4.32. Crook O'Moor Road comprises an adopted highway that bisects Land Parcel B. Byway Open to All Traffic CROW21 follows the alignment of Crook O'Moor Road in the vicinity of the site. It is understood that the Crook O' Moor Road part of CROW21 was added to the West Riding of Yorkshire definitive map and statement with a width of 12.19 metres.

**Existing Site Accesses**

12.4.33. The Scheme currently comprises agricultural land uses. Access to the Order Limits is currently provided via agricultural access points in multiple locations, as shown on **Figure 12.1** Revision 2 **– Indicative Access Strategy [APP-164].**

**Public Rights of Way**

12.4.34. A number of Public Rights of Way (PRoW) route through or abut the Order Limits. These are shown on **ES Figure 12.1** Revision 2 **– Indicative Access Strategy [**Document Reference 6.4.12.1 Revision 2~~APP-164~~**]** and are summarised in **Table 12-9**.

**Table 12-9: PRoW within or abutting the Order Limits**

| PRoW Name | Type of PRoW | Responsible Authority |
|---|---|---|
| Thorne 15 | Footpath | CDC |
| Thorne 19 | Footpath | CDC |
| CROW 18 | Bridleway | NLC |
| CROW 21 | Byway Open to All Traffic | NLC |

12.4.35. The Stainforth and Keadby Canal path, referred to simply as the 'Canal Path' for the remainder of this **ES Chapter 12 Transport and Access [Document Reference 6.1.12 Revision** 4~~3~~**]**, also routes within the vicinity of the Order Limits, to the south of Land Parcel A. This has also been considered.

12.4.36. The Thorne 15, Thorne 19, CROW 21 PRoW routes and the Canal Path, on the basis that these are anticipated to have the most footfall within the vicinity of

the site and as agreed with NLC PRoW officers, were subject to 24 hour user surveys undertaken by an independent surveyor on Thursday 16 and Saturday 18 May 2024. Further to correspondence with NLC PRoW officers in February 2024, it was agreed with NLC that undertaking the surveys in Spring/Summer would yield results which reflect peak usage. The days when the surveys were carried out were dry and bright. The results of the surveys are summarised in **Table 12-10**, with the survey data included at **Appendix 12.3 – Baseline Traffic Survey Report [APP-113].**

**Table 12-10: PRoW usage (two-way)**

| User | Thursday 16 May 2024 | | Saturday 18 May 2024 | |
|---|---|---|---|---|
| | Hourly Max | Daily Total | Hourly Max | Daily Total |
| | Thorne 15 | | | |
| Pedestrian | 3 | 8 | 3 | 12 |
| Cycle | 1 | 2 | 1 | 1 |
| Equestrian | 0 | 0 | 0 | 0 |
| | Thorne 19 | | | |
| Pedestrian | 4 | 10 | 3 | 12 |
| Cycle | 0 | 0 | 1 | 1 |
| Equestrian | 0 | 0 | 0 | 0 |
| | CROW 21 | | | |
| Pedestrian | 5 | 13 | 10 | 28 |
| Cycle | 2 | 4 | 2 | 4 |
| Equestrian | 0 | 0 | 1 | 1 |
| | Stainforth and Keadby Canal Path | | | |
| Pedestrian | 2 | 4 | 0 | 0 |
| Cycle | 0 | 0 | 0 | 0 |
| Equestrian | 0 | 0 | 0 | 0 |

12.4.37. As shown in **Table 12-10**, the Thorne 15 and Thorne 19 PRoWs had a total of 12 pedestrian and one cycle movements on their busiest day (Saturday), PRoW CROW 21 had a total of 28 pedestrian, four cycle and one equestrian movements on its busiest day (Saturday), and the Canal Path had a total of four pedestrian movements on its busiest day (Thursday). These are not considered to be material numbers of movements across a typical day with a maximum of 10 two-way movements (i.e., five outbound and five return trips) in any one hour (one movement every six minutes on average).

**Personal Injury Collisions**

12.4.38. Personal Injury Collision (PIC) data has been obtained from CDC and NLC for the most recent five-year period (January 2020 – March 2025 for CDC and May 2020 – May 2025 for NLC). NLC has confirmed that updated records up to 27 April 2026 are now available. The Applicant has obtained these records from NLC, and the data confirms that no additional incidents were recorded between 22/05/2025 and 27/04/2026.

12.4.39. The study area comprises the proposed construction traffic routes identified at **ES Figure 12.1** Revision 2 **- Indicative Access Strategy [**Document Reference 6.4.12.1 Revision 2~~APP-164~~**]**. As requested by National Highways during statutory consultation, the junctions on the SRN have also been included.

12.4.40. The study area comprises the construction traffic routes within both CDC and NLC jurisdiction. Junctions on the SRN have also been included at the request of National Highways. In summary, the data confirms that there has been a total of five fatal incidents, 78 slight incidents and 25 serious incidents within the study area. The full PIC reports including a breakdown of where the recorded incidents occurred is set out within **Appendix 12.1 -Transport Statement [APP-111]**.

12.4.41. The data averages to just over 20 incidents per year, or just under two incidents per month. The majority of the incidents appear to have occurred due to driver error, and although five fatal incidents were recorded, the incidents do not form a pattern that would suggest an issue with the layout or design of the local highway network. Given the extent of the study area, the five year study period and the types of roads which comprise the local highway network, it is considered that there are no existing highway safety issues with the local highway network.

**Baseline Survey Information**

12.4.42. The sources of baseline information are included at **Table 12-11.**

**Table 12-11: Baseline information**

| Baseline Topic | Data Source | Date |
|---|---|---|
| Automatic Traffic Count Surveys of the local highway network study area (see Appendix 12.3 – **Baseline Traffic Survey Report [APP-113])** | Paul Castle Associates | June 2023 |
| DfT Traffic Counts, for the local highway network study area, as required (see Appendix 12.3 – **Baseline Traffic Survey Report [APP-113])** | Department for Transport Road Traffic Statistics | June 2021 |
| Non-Motorised User (PRoW) Surveys (see Appendix 12.3 – **Baseline Traffic Survey Report [APP-113])** | Nationwide Data Collection | May 2024 |
| Highway Search | CDC | November 2022 |
| | NLC | October 2022 |
| Personal Injury Collision Data | South Yorkshire Mayoral Combined Authority (Doncaster extents) | June 2025 |
| | NLC | May 2025 and May 2026 |
| Base Mapping | Ordnance Survey | Various |

| Baseline Topic | Data Source | Date |
|---|---|---|
| | Landmark Surveys (Topographic Survey) | May 2023 |
| DfT Traffic Counts, for the strategic highway network study area | Department for Transport Road Traffic Statistics | 2022 / 2024 |

Baseline Traffic Flows

12.4.43. Automatic Traffic Count (ATC) surveys have been carried out across the local highway network, further to agreement with CDC and NLC, between Tuesday 6th and Monday 12th of June 2023. The traffic and speed surveys are summarised at **Appendix 12.3 Baseline Traffic Survey Report [APP-113]**.

12.4.44. Baseline flows on the SRN have been derived from recorded flows on the Department for Transport (DfT) road traffic statistics webpage.

12.4.45. **Table 12-12** sets out the recorded baseline annual average daily traffic (AADT) two-way flows for the ES transport study area. AADT represents the average number of vehicles that pass a specific point on a road or highway in a 24-hour period over a full year and is calculated by dividing the total volume of traffic over a year by 365 days.

**Table 12-12: 2023 Baseline AADT flows, derived from Automatic Traffic Counts and DfT traffic counts**

| Highway Link | 2023 Baseline Two-Way AADT | Baseline Number of Heavy Goods Vehicles (HGV) with Percentage of AADT |
|---|---|---|
| Link One<br>Marshland Road, N of The Avenue | 4,506 | 521 (11.6%) |
| Link Two<br>North Common Road, E of Mount Pleasant Road | 3,244 | 627 (19.3%) |

| Highway Link | 2023 Baseline Two-Way AADT | Baseline Number of Heavy Goods Vehicles (HGV) with Percentage of AADT |
|---|---|---|
| Link Three<br>A614 Selby Road, S of the North Common Road | 6,457 | 1,361 (21.1%) |
| Link Four<br>Marshland Road, N of Broadbent Gate Road | 8,706 | 923 (10.6%) |
| Link Five<br>Coulman Street, N of Church Balk/Coulman Street/Moor Edges Road/Wike Gate Road Junction | 4,180 | 464 (11.1%) |
| Link Six<br>Moor Edges Road, E of the Church Balk/Coulman Street/Moor Edges Road/Wike Gate Road Junction | 840 | 180 (21.4%) |
| Link Seven<br>High Bridge Road, SE of Moor Road | 161 | 24 (14.9%) |
| Link Eight<br>Green Bank, S of Clay Bank Road | 110 | 13 (11.8%) |
| Link Nine<br>A614, Tudworth Road, N of the Tudworth Roundabout | 5,108 | 640 (12.5%) |
| Link Ten<br>A18, High Levels Bank, E of the Tudworth Roundabout | 7,883 | 1,446 (18.3%) |
| Link Eleven<br>A18 Tudworth Road, S of the Tudworth Roundabout | 7,950 | 1,544 (19.4%) |
| Link Twelve<br>A18 High Levels Bank, E of the Black Bull Inn | 7,582 | 1,661 (21.9%) |
| Link Thirteen | 8,289 | 1,714 (20.7%) |

| Highway Link | 2023 Baseline Two-Way AADT | Baseline Number of Heavy Goods Vehicles (HGV) with Percentage of AADT |
|---|---|---|
| A18 Tudworth Road, NE of Sandtoft Road | | |
| Link Fourteen<br>Sandtoft Road, E of A18 Tudworth Road | 2,318 | 355 (15.3%) |
| Link Fifteen<br>Low Levels Bank, W of Moor Lane/Crow Tree Bank | 2,224 | 388 (17.4%) |
| Link Sixteen<br>A161 Eastoft Road, in between the Eastoft Road bus stop and the junction with Carr Lane | 2,434 | 361 (14.8%) |
| Link Seventeen<br>Wharf Road, near the Park View bus stops | 8,279 | 1,060 (12.8%) |
| Link Eighteen<br>A18 near Triangles Farm, southwest of Ealand | 5,317 | 991 (18.6%) |
| Link Nineteen<br>Marsh Road W of junction with Windsor Road / Cross St | 113 | 18 (15.9%) |
| Link Twenty<br>M18 North of Junction 6. | 51,084 | 12,062 (23.6%) |
| Link Twenty-One<br>M18 South of Junction 6. | 61,374 | 13,110 (21.4%) |
| Link Twenty-Two<br>M180 East of M18 Junction 5. | 54,272 | 12,840 (23.7%) |
| Link Twenty-Three<br>M180 West of Junction 2. | 43,180 | 10,692 (24.8%) |
| Link Twenty-Four<br>M180 East of Junction 2. | 45,971 | 11,218 (24.4%) |

| Highway Link | 2023 Baseline Two-Way AADT | Baseline Number of Heavy Goods Vehicles (HGV) with Percentage of AADT |
|---|---|---|
| Link Twenty-Five<br>A161 between M180 J2 and A18 | 5,281 | 419 (7.9%) |

*NOTE: HGVs included within total traffic flow. Link flows are two-way.*

## 12.5. Assessment of Likely Effects

### Summary of Scheme

12.5.1. HGVs will route directly to the parcels where possible. Construction compounds will be located across the Order Limits. Land Area D and Land Area E will each have a larger construction compound where the largest heavy goods vehicles (HGVs) will offload and decant materials onto smaller vehicles (i.e. tractor and trailer) to access other parcels of their respective Land Area.

### Access Arrangements

12.5.2. Due to the large-scale nature of the Scheme, there are multiple access points proposed, as set out in detail in the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** and summarised in **Table 12-13**. Access arrangement drawings are included at **Appendix 12.4 [REP3-026]**.

**Table 12-13: Proposed points of access to the scheme during the construction phase**

| Access Location Ref | Accessed from | Details | Access into Panel Area |
|---|---|---|---|
| A | Moor Edges Road | Existing industrial access | A6 |
| B | Moor Edges Road | New access | A10 |
| C | High Bridge Road | Existing agricultural access | Bird Mitigation Area (M3(A)) |
| D | Green Bank | Existing agricultural access | C1 |

| Access Location Ref | Accessed from | Details | Access into Panel Area |
|---|---|---|---|
| E | Green Bank | Existing agricultural access | C4 |
| F | A18 High Levels Bank | New access | D3/D5 |
| H | Low Levels Bank | Existing agricultural access | D7 |
| i | Low Levels Bank | Existing agricultural access | D15 |
| J | Low Levels Bank | Existing agricultural access | D14 |
| K | Low Levels Bank | Existing agricultural access | D16 |
| M | A18 High Levels Bank | Existing agricultural access | D4 |
| N | A18 High Levels Bank | Existing agricultural access | Land west of C9 (M8(c) mitigation land) |
| O | A18 High Levels Bank | Existing agricultural access | E1 |
| P | A18 High Levels Bank | Existing agricultural access | E1 |
| Q | Unnamed Road | Existing agricultural access | E7 |
| R | Unnamed Road | Existing agricultural access | E13 |
| S | Marsh Road | Existing agricultural access | B5 |
| W | Low Levels Bank | Existing agricultural access | D12 |
| X | Idles Bank | Existing agricultural access | Land south of E7 (cable easement) |
| Y | Jaque's Bank | Existing agricultural access | C9 |
| Z | Crow Tree Bank | Existing agricultural access | D9 |

| Access Location Ref | Accessed from | Details | Access into Panel Area |
|---|---|---|---|
| AA | Marsh Road | Existing agricultural access | B6 & B7 |
| AB | Marsh Road | New access | B6 & B7 |
| AC | Marsh Road | Internal crossing | B5 & B8 |
| AD | Crook O'Moor Road - Internal Crossing | Internal crossing | B5 & B2 |
| AE | Internal Crossing | Internal Crossing | D7 & D10 |
| AH | A18 High Levels Bank | New access | E2 |
| AI | A18 High Levels Bank | New access | C9 |
| AJ | Green Bank | Existing agricultural access | - |
| AK | A161 | Existing agricultural access | Bird Mitigation Area (M15(E)) |

12.5.3. Suitable visibility splays can be provided for each access location within the extents of the Order Limits and all construction vehicles will enter and exit the Scheme in forward gear, as shown on **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.2 Revision 3 to Figure 3.33 Revision 3 (Proposed Access Arrangements – Access A to Access AG; (enclosed at **Appendix 12.4 [REP3-026]**)). Vegetation within the visibility splays will be maintained at a height of no more than 600mm, and any loss of vegetation is set out in the Outline Landscape Ecological Management Plan (LEMP) within Volume 7 of the ES [**Document Reference 7.6 Revision ~~5~~6**].

12.5.4. All access points, including the visibility splays, will be provided at the start of the construction of each relevant land parcel and therefore will form embedded mitigation. A description of each access point is summarised below.

Location A

12.5.5. Access A is an existing access to Causeway Farm which measures approximately eight metres wide and is served via Moor Edges Road. A swept path assessment has been undertaken at Outline CTMP Figure 3.2 Revision 3 - Proposed Access Arrangements - Access A (enclosed at **Appendix 12.4 [REP3-**

**026]**), which indicates that the existing junction dimensions are of a suitable size to facilitate access by a 16.5m long HGV.

12.5.6. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.2 Revision 3 - Proposed Access Arrangements - Access A (enclosed at **Appendix 12.4 [REP3-026]**), a visibility splay of 2.4 x 215 metres is shown to be achievable to the nearside kerbline west of the access, commensurate with DMRB guidance [**Ref-1**] for the National Speed Limit (60mph). A visibility splay of 2.4 x 60 metres to the nearside kerbline south of the access is the maximum achievable splay. Speed surveys undertaken in June 2023 confirm a recorded 85th percentile speeds for westbound traffic in this location of 34.4mph. This existing access is frequented by large, slow moving agricultural vehicles on a regular basis with no apparent highway safety issue (as set out in ES **Appendix 12.1 - Transport Statement [APP-111]**). With reference to Manual for Streets [**Ref-4**], which is typically used for speeds of up to 37mph, the visibility splays are considered to be acceptable.

Location B

12.5.7. Access B proposes the construction of a new access from Moor Edges Road. As shown at **Outline CTMP [~~REP3-041~~ Document Reference 7.7 Revision 5]** Figure 3.3 Revision 3- Proposed Access Arrangements - Access B (enclosed at **Appendix 12.4 [REP3-026]**) it will be provided with a six metre wide carriageway and junction radii of 14 metres on the northern side and six metres on the southern side. An 8.2 metre taper will also be provided on the northern side of the access to facilitate the arrival and departure of the largest HGVs. The location of the access is generally open, and limited vegetation will need to be removed to accommodate it. A new ditch crossing, and culvert will be required and sufficient edge clearance will be provided between the carriageway and culvert headwalls at detailed design.

12.5.8. A visibility splay of 2.4 x 215 metres to the north is shown to be achievable to the nearside kerbline commensurate with DMRB guidance [Ref-1] for the national (60mph) speed limit. A maximum achievable visibility splay to the south of 2.4 x 77.98 metres to the is shown to be achievable to the nearside kerbline. Speed surveys undertaken in June 2023 confirm a recorded 85th percentile speeds for northbound traffic in this location of 32mph. The raw data is included at Appendix B. With reference to Manual for Streets [Ref-4], which is typically used for speeds of up to 37mph, the visibility splays are considered to be acceptable.

This will be managed during the construction phase via banksmen, as set out further at Chapter 6 of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**.

12.5.9. A swept path assessment for a 16.5m long HGV has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.3 Revision 3 - Proposed Access Arrangements - Access B (enclosed at **Appendix 12.4[REP3-026]**), which indicates that a vehicle of this size is able to enter and exit the proposed access arrangement.

Location C

12.5.10. Access C is an existing agricultural access from High Bridge Road. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.4 Revision 3 - Proposed Access Arrangements - Access C (enclosed at **Appendix 12.4 [REP3-026]**). Visibility splays of 2.4 x 215 metres to the nearside kerbline are shown to be achievable to the west, commensurate with DMRB guidance [Ref-1] for the national (60mph) speed limit in this location, and 2.4 x 35.6 metres towards Maud's swing Bridge where there is a sharp turn in the road where it crosses the canal. Speeds in this location are observed to be low due to the bridge and the bend in the road. There is no existing highway safety issue in this location.

12.5.11. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.4 Revision 3 - Proposed Access Arrangements - Access C (enclosed at **Appendix 12.4 [REP3-026]**) also contains a swept path assessment for a 13.7 metre long tractor and trailer – the maximum vehicle requiring access to this parcel - confirming that a vehicle of this size is able to enter and exit in a forward gear at the existing access with no improvements required.

Location D

12.5.12. Access D proposes a new access to be served from the eastern side of Green Bank.

12.5.13. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.5 Revision 3 - Proposed Access Arrangements - Access D (enclosed at **Appendix 12.4 [REP3-026]**) it will be provided with a six metre wide carriageway with a 12 metre junction radius on the southern side and a two metre radius on

the northern side of the bell mouth, proposed to prevent construction vehicles entering and exiting the Order Limits to the north.

12.5.14. A visibility splay of 2.4 x 215 metres to the nearside kerbline is shown to be achievable to the south, commensurate with DMRB guidance for the speed limit of the road (national speed limit; 60mph). A maximum 2.4 x 160.5 metre visibility splay to the nearside kerbline to the north is shown to be achievable. Speed surveys undertaken in June 2023 confirm a recorded 85th percentile speeds for southbound traffic in this location of 31.2mph. With reference to Manual for Streets [Ref-4], which is typically used for speeds of up to 37mph, the visibility splays are considered to be acceptable.

12.5.15. In order to provide the access point and provide the visibility splays, hedgerow to the north of the access will need to be removed and/or reduced in height.

12.5.16. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.5 Revision 3 - Proposed Access Arrangements - Access D (enclosed at **Appendix 12.4 [REP3-026]**) contains a swept path assessment for a 16.5 metre long HGV confirming that a vehicle of this size is able to enter and exit in a forward gear, from the south only, in line with the proposed construction traffic route via the A18.

Location E

12.5.17. Access E proposes the use of an existing agricultural access from the western side of Green Bank. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.6 Revision 3 - Proposed Access Arrangements - Access E (enclosed at **Appendix 12.4 [REP3-026]**), the access will be upgraded with a six metre wide carriageway, with an eight metre radii on the southern side and a six metre radii on the northern side of the access. An 8.6 metre taper will also be provided on the southern side of the junction to assist the largest HGVs entering and exiting the Order Limits. Visibility splays of 2.4 x 215 metres to the nearside kerbline are shown to be achievable in both directions commensurate with DMRB guidance [Ref-1] for the national (60mph) speed limit of the road.

12.5.18. The location of the access is generally open and limited vegetation will need to be removed to accommodate it. An extended ditch crossing and culvert will be required.

12.5.19. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.6 Revision 3 - Proposed Access Arrangements - Access E (enclosed at **Appendix 12.4 [REP3-026]**) also contains a swept path assessment for a 16.5 metre long HGV confirming that a vehicle of this size is able to enter and exit in a forward gear.

Location F

12.5.20. Access F proposes the use of an existing agricultural field gate access to the south of High Levels Bank. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.7 Revision 3 - Proposed Access Arrangements - Access F (enclosed at **Appendix 12.4 [REP3-026]**), the access is proposed to be formalised with a 10 metre junction radius and 17.4 metre long taper provided on the western side of the access. Visibility splays of 2.4 x 215 metres to the nearside kerbline are shown to be achievable in both directions commensurate with DMRB guidance [**Ref-1**] for the national (60mph) speed limit of the road.

12.5.21. The location of the access is generally open, and limited vegetation will need to be removed to accommodate it. An extended ditch crossing and culvert will be required. Due to level differences between the carriageway and the site, a level dwell area will be provided on the immediate approach to the access at detailed design stage.

12.5.22. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.7 Revision 3 - Proposed Access Arrangements - Access F (enclosed at **Appendix 12.4 [REP3-026]**) also contains a swept path assessment for a 16.5 metre long HGV confirming that a vehicle of this size is able to enter and exit in a forward gear to and from the west.

Location H

12.5.23. Access H will utilise an existing agricultural access consisting of a culvert over a drainage ditch on the northern side of High Levels Bank. A swept path assessment has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.9 Revision 3 - Proposed Access Arrangements - Access H (enclosed at **Appendix 12.4 [REP3-026]**), which indicates that the existing junction dimensions are of a suitable size to facilitate access by a 16.5m long HGV to and from the west, in accordance with the

construction traffic routes set out in Chapter 4 of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**.

12.5.24. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.9 Revision 3 - Proposed Access Arrangements - Access H (enclosed at **Appendix 12.4 [REP3-026]**) visibility splays of 2.4 x 215 metres are shown to be achievable to the nearside kerbline in both directions commensurate with DMRB guidance [**Ref-1**] for the national (60mph) speed limit of the road.

Location i

12.5.25. Access i proposes the use of an existing agricultural access consisting of a culvert over a drainage ditch on the southern side of Low Levels Bank. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.10 Revision 3 - Proposed Access Arrangements - Access i (enclosed at **Appendix 12.4 [REP3-026]**) the access is proposed to be upgraded with a six metre wide carriageway, with a 10 metre radii on the western side and a two metre radii on the eastern side of the junction. This is proposed to prevent construction vehicles entering and exiting the Order Limits to the east, in accordance with the construction traffic routes set out in Chapter 4 of the oCTMP. Visibility splays of 2.4 x 215 metres are shown to be achievable to the nearside kerbline in both directions commensurate with DMRB guidance **[Ref-1]** for the national (60mph) speed limit of the road.

12.5.26. The location of the access is generally open, and limited vegetation will need to be removed to accommodate it. An extended ditch crossing, and culvert will be required. There is a row of telegraph poles along the carriageway edge. However, in accordance with DMRB these are less than 550mm and are considered to be intermittent obstructions to the visibility splays and it is therefore considered appropriate for them to remain in situ.

12.5.27. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.10 Revision 3 - Proposed Access Arrangements - Access i (enclosed at **Appendix 12.4 [REP3-026]**) also contains a swept path assessment for a 16.5 metre long HGV confirming that a vehicle of this size is able to enter and exit in a forward gear.

Location J

12.5.28. Access J proposes the use of an existing agricultural access on the northern side of Low Levels Bank. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.11 Revision 3 - Proposed Access Arrangements - Access J (enclosed at **Appendix 12.4 [REP3-026]**), the access is proposed to be upgraded with a six metre wide carriageway, with a six metre radii on the western side and a four metre radii on the eastern side of the junction. This is proposed to prevent construction vehicles entering and exiting the Order Limits to the east, in accordance with the construction traffic routes set out in Chapter 4 of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**. Visibility splays of 2.4 x 215 metres are shown to be achievable to the nearside kerbline in both directions commensurate with DMRB guidance [Ref-1] for the national (60mph) speed limit of the road.

12.5.29. The location of the access is generally open and limited vegetation will need to be removed to accommodate it. An extended ditch crossing, and culvert will be required.

12.5.30. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.11 Revision 3 - Proposed Access Arrangements - Access J (enclosed at **Appendix 12.4 [REP3-026]**) contains a swept path assessment for a 16.5m long HGV confirming that a vehicle of this size is able to enter and exit in a forward gear.

Location K

12.5.31. Access K is an existing agricultural access consisting of a culvert over a drainage ditch on the southern side of Low Levels Bank, approximately 140 metres east of Access J. A swept path assessment has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.12 Revision 3 - Proposed Access Arrangements - Access K (enclosed at **Appendix 12.4 [REP3-026]**) which indicates that the existing junction dimensions are of a suitable size to facilitate access by a 16.5m long HGV. The access is therefore considered to be suitable to accommodate construction vehicles.

12.5.32. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.12 Revision 3 - Proposed Access Arrangements - Access K (enclosed at **Appendix 12.4 [REP3-026]**) also shows that visibility splays of 2.4 x 215 metres are shown to be achievable to the nearside kerbline in both directions commensurate with DMRB guidance for the national (60mph) speed limit for the road.

Location M

12.5.33. Access M is an existing agricultural access consisting of a culvert over a drainage ditch on the southern side of the A18 High Levels Bank. A swept path assessment has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.14 Revision 3 - Proposed Access Arrangements - Access M (enclosed at **Appendix 12.4 [REP3-026]**), which indicates that the existing junction will need to be widened with a 14 metre radius and 14.2 metre taper on the western side to facilitate access by a 16.5m long HGV. Construction vehicles will be advised that access will only be available to and from the west, in accordance with the construction traffic routes set out in Chapter 4 of the **Outline CTMP [~~REP3-041~~ Document Reference 7.7 Revision 5]**.

12.5.34. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.14 Revision 3 - Proposed Access Arrangements - Access M (enclosed at **Appendix 12.4 [REP3-026]**) also shows that visibility splays of 2.4 x 215 metres are shown to be achievable to the nearside kerbline in both directions commensurate with DMRB guidance [Ref-1] for the national (60mph) speed limit.

Location N

12.5.35. Access N is an existing agricultural access which measures approximately 15 metres wide at the connection point of the bell mouth with the northern side of the A18 High Level Bank. A swept path assessment has been undertaken at Outline CTMP [Document Reference 7.7 Revision 5~~Document Reference 7.7 Revision 3~~] Figure 3.15 Revision 3 - Proposed Access Arrangements - Access N (enclosed at **Appendix 12.4 [REP3-026]**), which indicates that the existing junction dimensions are of a suitable size to facilitate access by 16.5m long HGV. The access is therefore considered to be suitable to accommodate construction vehicles

12.5.36. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.15 Revision 3 - Proposed Access Arrangements - Access N (enclosed at **Appendix 12.4 [REP3-026]**) also shows that existing visibility splays of 2.4 x 215 metres achievable to the nearside kerb lines in both directions commensurate with DMRB guidance [Ref-1] for the national (60 mph) speed limit of the road. The access is therefore considered to be suitable to accommodate construction vehicles.

Location O

12.5.37. Access O is an existing agricultural access consisting of a concrete bridge over a drainage ditch on the southern side of the A18 High Levels Bank. A swept path assessment has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.16 Revision 3 - Proposed Access Arrangements - Access O (enclosed at **Appendix 12.4 [REP3-026]**), which indicates that the existing junction dimensions are of a suitable size to facilitate access by a 16.5m long HGV accessing and egressing to and from the west.

12.5.38. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.16 Revision 3 - Proposed Access Arrangements - Access O (enclosed at **Appendix 12.4 [REP3-026]**) also shows that visibility splays of 2.4 x 215 metres are shown to be achievable to the nearside kerbline in both directions commensurate with DMRB guidance [Ref-1] for the national (60mph) speed limit of the road.

Location P

12.5.39. Access P is an existing agricultural access consisting of a concrete bridge over a drainage ditch served from the southern side of an unnamed road which measures approximately 125 metres long between High Levels Bank in the east and the A18 in the west. The swept path assessment of a 16.5m long HGV shown in **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.17 Revision 3 - Proposed Access Arrangements - Access P (enclosed at **Appendix 12.4 [REP3-026]**) indicates that the bridge will be required to be upgraded/widened in order to accommodate large construction vehicles.

12.5.40. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.17 Revision 3 - Proposed Access Arrangements - Access P (enclosed at **Appendix 12.4 [REP3-026]**) shows a visibility splay of 2.4 metres x 215 metres to the east is shown to be achievable, extending along High Levels Bank. Although the visibility splay is outside of the red line boundary to the east, it crosses a ditch and is within the adopted highway boundary. On this basis, it is considered to be unlikely that a structure will be built within or over the highway ditch to a height which impedes visibility 0.6 metres above the High Levels Bank or unnamed road ground level. A visibility splay of 2.4 metres x 51.8 metres is also shown to be achievable to the centre of the unnamed road's junction with the A18 from which oncoming traffic will be travelling from.

Location Q

12.5.41. Access Q is an existing agricultural access which measures approximately 20 metres wide where the bell mouth meets the carriageway on the eastern side of High Levels Bank / Idles Bank. The access is proposed to be widened by approximately four metres to the north, in order to avoid an easement to an existing telecoms mast, with a 10 metre junction radii to be provided. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.18 Revision 3 - Proposed Access Arrangements - Access Q (enclosed at **Appendix 12.4 [REP3-026]**), existing visibility splays of 2.4 metres x 160 metres in both directions are shown to be achievable to the nearside kerbline in line with DMRB requirements for the signed 50mph speed limit.

12.5.42. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.18 Revision 3 - Proposed Access Arrangements - Access Q (enclosed at **Appendix 12.4 [REP3-026]**) also contains a swept path assessment for a 16.5m long HGV confirming that a vehicle of this size is able to enter and exit in a forward gear.

Location R

12.5.43. Access R is an existing agricultural access consisting of a concrete bridge over a drainage ditch located to the south of an unnamed road which routes east to west between the A161 and High Levels Bank. The existing access dimensions are suitable to accommodate a 16.5 metre long HGV as shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.19 Revision 3 - Proposed Access Arrangements - Access R (enclosed at **Appendix 12.4 [REP3-026]**).

12.5.44. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.19 Revision 3 - Proposed Access Arrangements - Access R (enclosed at **Appendix 12.4 [REP3-026]**) also shows that visibility splays of 2.4 x 215 metres are shown to be achievable to the nearside kerbline in both directions commensurate with DMRB guidance for the national speed limit.

Location S

12.5.45. Access S proposes a new access from the northern side of Marsh Road. As identified at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.20 Revision 3 - Proposed Access Arrangements - Access S (enclosed at **Appendix 12.4 [REP3-026]**), the junction will feature a six metre wide

carriageway with an eight metre radii on the southern side and a six metre radii with 14 metre taper on the northern side of the bell mouth. Visibility splays of 2.4 x 215 metres to the nearside kerbline are shown to be achievable in both directions, commensurate with DMRB guidance [**Ref-1**] for the national (60mph) speed limit of the road.

12.5.46. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.20 Revision 3 - Proposed Access Arrangements - Access S (enclosed at **Appendix 12.4 [REP3-026]**) also contains a swept path assessment for a 16.5 metre long HGV confirming that a vehicle of this size is able to enter and exit in a forward gear.

Location W

12.5.47. Access W is an existing agricultural access which measures approximately 17 metres wide at its point of connection with the northern side of Low Levels Bank. A swept path assessment has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.24 Revision 3 - Proposed Access Arrangements - Access W (enclosed at **Appendix 12.4 [REP3-026]**), which indicates that the existing junction dimensions are of a suitable size to facilitate access by a 16.5m long HGV to and from the east, from which construction vehicles are anticipated to be routing to the Order Limits.

12.5.48. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.24 Revision 3 - Proposed Access Arrangements - Access W (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that visibility splays of 2.4 metres x 215 metres are shown to be achievable to the nearside kerbline using land within the Order Limits and adopted highway boundary in both directions, commensurate with DMRB guidelines [**Ref-1**] for the national (60mph) speed limit of the road.

Location X

12.5.49. Access X is an existing agricultural access which measures approximately 16 metres wide where the bell mouth meets the carriageway on the eastern side of High Levels Bank. The access is approximately 30 metres south of Access Q. A swept path assessment has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.25 Revision 3 - Proposed Access Arrangements - Access X (enclosed at **Appendix 12.4 [REP3-026]**) which indicates that the existing access arrangement can facilitate access by a

16.5m long HGV to and from the north, from which construction vehicles are anticipated to be routing to the Order Limits.

12.5.50. As shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.25 Revision 3 - Proposed Access Arrangements - Access X (enclosed at **Appendix 12.4 [REP3-026]**), a visibility splay of 2.4 metres x 215 metres is shown to be achievable in both directions However, existing vegetation and gradients may impact the achievable visibility. If considered to be necessary, temporary traffic measures will be implemented on the unnamed road, such as banksmen or temporary signals, when large construction vehicles are entering and egressing the Order Limits. The precise location and details will be agreed with the highway authority in due course.

Location Y

12.5.51. Access Y is an existing agricultural access which measures approximately 12 metres wide at its point of connection with the carriageway, located to the west of Jaque's Bank. A swept path assessment has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.26 Revision 3 - Proposed Access Arrangements - Access Y (enclosed at **Appendix 12.4 [REP3-026]**) which indicates that the existing junction dimensions are of a suitable size to facilitate access by a 16.5m long HGV without requiring amendments to the adjacent ditches. Therefore, no further upgrades to the access are proposed.

12.5.52. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.26 Revision 3 - Proposed Access Arrangements - Access Y (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that visibility splays of 2.4 x 215 metres are shown to be achievable to the nearside kerbline in both directions commensurate with the national (60mph) speed limit of the road.

Location Z

12.5.53. Access Z is an existing agricultural access which measures approximately 11 metres wide at its point of connection with the eastern side of Crow Tree Bank. A swept path assessment has been undertaken at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.27 Revision 3 - Proposed Access Arrangements - Access Z (enclosed at **Appendix 12.4 [REP3-026]**) which indicates that the existing junction dimensions are of a suitable size to

facilitate access by a 16.5m long HGV. Therefore, no further upgrades to the access are proposed.

12.5.54. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.27 Revision 3 - Proposed Access Arrangements - Access Z (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that existing visibility splays of 2.4 x 215 metres to the south to the nearside kerbline and 2.4 x 54.93 metres to the north to oncoming vehicles are shown to be achievable without removing vegetation. However, this is an existing situation with no highway safety record (as set out in ES **Appendix 12.1 - Transport Statement** [**APP-111**]) and additional visibility is available beyond the Order Limits. Temporary traffic measures will be implemented on the unnamed road, such as banksmen or temporary signals, when large construction vehicles are entering and egressing the Order Limits. The precise location and details will be agreed with the highway authority in due course.

Location AA

12.5.55. Access AA proposes a new access on the northern side of Marsh Road, as shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.28 Revision 3 - Proposed Access Arrangements - Access AA (enclosed at **Appendix 12.4 [REP3-026]**). The access will be located opposite Access AB. Access AA will have a six metre wide carriageway with 10 metre junction radii on both sides. An 18.9 metre taper will be provided on the western side and a 16.7m taper on the eastern side within the Order Limits. These tapers will facilitate 16.5m long HGVs entering exiting the access. A swept path assessment of a 16.5m long HGV has been undertaken confirming that this vehicle is able to enter and exit the access from all directions in a forward gear.

12.5.56. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.28 Revision 3 - Proposed Access Arrangements - Access AA (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that a visibility splay of 2.4 x 215 metres to the north and 2.4 x 182 metres to the south are shown to be achievable to the nearside kerbline. On site observations suggest that vehicles speeds in this location are much lower than the signed national (60mph) speed limit. This section of Marsh Road is not adopted highway in any event and it is therefore not open to general traffic. The potential for conflict is therefore low.

Location AB

12.5.57. Access AB proposes a new access on the southern side of Marsh Road, as shown at Outline CTMP Figure 3.28 Revision 3 - Proposed Access Arrangements - Access AB which is located opposite Access AA. Access AB will have a six metre wide carriageway with 10 metre junction radii on both sides. A 16.5 metre taper will be provided on the western side and a 22.9m taper will be provided on the eastern side. These tapers will facilitate 16.5m long HGVs entering and exiting the access. A swept path assessment of a 16.5m HGV has also been undertaken confirming that this vehicle is able to enter and exit the access from all directions in a forward gear.

12.5.58. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.28 Revision 3 - Proposed Access Arrangements - Access AB (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that a visibility splay of 2.4 x 215 metres to the north and 2.4 x 196 metres to the south are shown to be achievable to the nearside kerbline. On site observations suggest that vehicles speeds in this location are much lower than the signed national (60mph) speed limit. This section of Marsh Road is not adopted highway in any event and it is therefore not open to general traffic. The potential for conflict is therefore low.

Location AC

12.5.59. Access AC is an internal crossing over Marsh Road to connect two panel areas within Land Parcel B, as shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.29 Revision 3 - Proposed Access Arrangements - Access AC (enclosed at **Appendix 12.4 [REP3-026]**). A swept path assessment for a tractor and trailer has been undertaken confirming that a vehicle of this size is able to perform the required manoeuvre.

12.5.60. Appropriate mitigation will be implemented, anticipated at this stage to consist of banksmen, to control vehicles as they cross Marsh Road.

Location AD

12.5.61. Access AD is an internal crossing within Land Area B between the panel areas either side of Crook O'Moor Road, as shown at Outline CTMP Figure 3.30 Revision 3 - Proposed Access Arrangements - Access AD (enclosed at **Appendix 12.4 [REP3-026]**). A swept path assessment for a 16.5 metre HGV has been undertaken confirming that a vehicle of this size is able to perform the required manoeuvre.

12.5.62. A potential crossing in the form of a culvert may be required to facilitate crossing between the two panel areas. The details will be agreed with the highway authority in due course.

12.5.63. PRoW CROW21 follows Crook O'Moor Road in this location. The PRoW will be temporarily diverted to enable to construction of Access AD as that will involve bridge/culvert works to cross the adjacent drain and some resurfacing works. This is considered further in **Section 12.6** of this Chapter and within the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**.

Location AE

12.5.64. Access AE is an internal crossing between the panel areas within Land Area D which are separated by a ditch, as shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.31 Revision 3 - Proposed Access Arrangements - Access AE (enclosed at **Appendix 12.4 [REP3-026]**). A swept path assessment for a 16.5 metre long HGV has been undertaken confirming that a vehicle of this size is able to perform the required manoeuvre.

Location AH

12.5.65. Access AH proposes a new access to the south of the A18 as shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.34 Revision 3 - Proposed Access Arrangements - Access AH (enclosed at **Appendix 12.4 [REP3-026]**). A swept path assessment for a tractor and trailer has been undertaken confirming that a vehicle of this size is able to turn into and out of the access to and from the east from/to a construction compound that will be located in the adjacent panel area.

12.5.66. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.34 Revision 3 - Proposed Access Arrangements - Access AH (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that a visibility splay of 2.4 x 215 metres is shown to be achievable to the nearside kerbline in both directions, commensurate with DMRB for the national (60mph) speed limit. The access point is therefore considered suitable to accommodate construction traffic associated with the laying of the cable route for the solar farm.

Location Ai

12.5.67. Access Ai proposes a new access to the south of the A18, around 390 metres west of Jaque's Bank, as shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.35 Revision 3 - Proposed Access Arrangements - Access Ai (enclosed at **Appendix 12.4 [REP3-026]**). A swept path assessment for a 16.5m long HGV has been undertaken confirming that a vehicle of this size is able to turn into and out of the access to and from the west, in accordance with the construction traffic routes set out in Chapter 4 of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**.

12.5.68. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.35 Revision 3 - Proposed Access Arrangements - Access Ai (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that a visibility splay of 2.4 x 215 metres is shown to be achievable to the nearside kerbline in both directions, commensurate with DMRB guidance [Ref-1] for the national (60mph) speed limit.

12.5.69. The location of the access is generally open and limited vegetation will need to be removed to accommodate it. An existing layby on the eastbound carriageway will be temporarily closed, if considered necessary by the highway authority. The precise details will be agreed with the highway authority in due course.

Location AJ

12.5.70. Access AJ is an existing agricultural access from Green Bank as shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.36 Revision 3 - Proposed Access Arrangements - Access AJ (enclosed at **Appendix 12.4 [REP3-026]**). A swept path assessment for a 4x4 vehicle and a trailer has been undertaken confirming that a vehicle of this size is able to perform the required manoeuvre. This access point is required as an access to the cable run to the south of Land Parcel C.

12.5.71. **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.36 Revision 3 - Proposed Access Arrangements - Access Ai (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that a visibility splay of 2.4 x 215 metres is shown to be achievable to the nearside kerbline in both directions, commensurate with DMRB guidance [Ref-1] for the national (60mph) speed limit.

Location AK

12.5.72. Access AK is an existing agricultural access from the A161 as shown at **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** Figure 3.37 Revision 3 - Proposed Access Arrangements - Access AK (enclosed at **Appendix 12.4**). This will serve as the access to land area M15(E) for retained agricultural purposes and mitigation. A swept path assessment for a tractor and trailer has been undertaken confirming that a vehicle of this size is able to perform the required manoeuvres.

12.5.73. Outline CTMP Figure 3.33 Revision 3 - Proposed Access Arrangements - Access AK (enclosed at **Appendix 12.4 [REP3-026]**) also confirms that visibility splays of 2.4 x 160 metres can be achieved to the nearside kerbline in both directions, commensurate with the 50mph speed limit in place on the A161 within the vicinity of the access.

**Construction Traffic Routing**

12.5.74. The designated routes for construction traffic accessing the Scheme to each of the Land Parcels are summarised below.

Land Parcel A

12.5.75. Access A and B serve Land Parcel A. Access C provides access to land required for bird mitigation within Land Parcel A. The arrival route vehicles will take is as follows:

i. Exit the M18 motorway at Junction 6 turning north onto Selby Road.

ii. Turn right onto North Common Road following it along before turning right onto Marshland Road.

iii. Follow Marshland Road south and then turn left onto Coulman Street.

iv. Follow Coulman Street south before turning left onto Moor Edges Road.

v. For Access A, turn left onto the Private Road leading into Causeway Farm and into the Scheme.

vi. For Access B, continue on Moor Edges Road for 850 metres before turning left in to the Scheme; and

vii. For Access C, continue onto High Bridge Road before turning left in to the site before reaching Maud's Bridge.

Land Parcel B

12.5.76. Access S, AA, AB and AC serve Land Parcel B. Access AD is accessed internally from within Land Parcel B. The arrival route vehicles will take is as follows:

i. Exit the M180 at Junction 2 onto the A161 and follow it northwards towards Crowle.

ii. Turn left onto Godnow Road, following the road southwest.

iii. Turn right onto Windsor Road and continue north to the junction with Marsh Road and Cross street; and

iv. Turn left onto Marsh Road, continuing west until turning into each access point.

12.5.77. Land Parcel B is bisected by Crook O'Moor Road and PRoW CROW21. Panel areas B1, B2, B3 and B4 shown on **Figure 1.3 Development Parcels Plan [APP-131]** are located on land to the north of Crook O'Moor Road. Vehicles accessing panel areas B1, B2, B3 and B4 would enter panel area B5 via Access S from Marsh Road before crossing Crook O'Moor Road.

Land Parcel C

12.5.78. Access D, E, Y and Ai serve Land Parcel C. Access to the panel areas which comprise Land Parcel C are served directly from, or from minor roads served from, the A18. The arrival route vehicles will take to reach these access points is as follows:

i. Construction traffic will exit the M180 at Junction 1 onto the Tudworth Roundabout turning east onto the A18 ; and

ii. Continue east along the A18 before either accesses the land parcel required directly from the A18 (Access Ai), or one of the minor roads (Green Bank (Access D and E) or Jaque's Bank (Access Y)) from the A18.

Land Parcel D

12.5.79. Land Parcel D is bisected by the M180. The arrival route vehicles routing to parcels to the north of the M180 (Access F, M and Z) will take to reach their destination is as follows:

i. Construction traffic will exit the M180 at Junction 1 onto the Tudworth Roundabout turning east onto the A18

ii. Continue east along the A18 before either accessing the land parcel required directly from the A18 (Access F and M), or Crow Tree Bank (Access Z).

12.5.80. There is a 7.5 tonne except for access weight limit restriction on Low Levels Bank between the junction with the A18 Tudworth Road and Crow Tree Bank. As such, vehicles are only permitted to use this section of road if they are accessing land between the A18 and Crow Tree Bank and are not permitted to travel through the weight restriction. As such vehicles routing to access J and K on Low Levels Bank to the east of the weight restriction will need to access and egress to/from the east only.

12.5.81. Accesses H, i, and W are located on Low Levels Bank between the A18 Tudworth Road and Crow Tree Bank. The arrival route vehicles routing to parcels to the south of the M180 using accesses H, i and W will take to reach their destination is as follows:

i. Vehicles will exit the M180 at Junction 1 onto the Tudworth roundabout turning south onto the A18.

ii. Upon reaching the Sandtoft Road junction turn left following it along as it becomes Low Levels Bank; and

iii. Continue following Low Levels Bank east into the access points either side of the Low Levels Bank carriageway.

12.5.82. Accesses J and K are located on Low Levels Bank east of the Crow Tree Bank junction and therefore beyond the weight restriction. The arrival route vehicles routing to parcels to the south of the M180 using accesses J and K will take to reach their destination is as follows:

i. Vehicles will exit the M180 at Junction 1 onto the Tudworth roundabout turning east onto the A18.

ii. Continue east along Low Levels Bank before turning south onto Crow Tree Bank.

iii. Turn east at the Crow Tree Bank/ Low Levels Bank junction to travel to access points J and K.

Land Parcel E

12.5.83. Accesses P, R, Q, X and AK serve Land Parcel E. The arrival route vehicles will take is as follows:

- Exit the M180 at Junction 2 onto the A161 following it north: then:
- For Access P, turn left onto the A18 following it west before turning left onto High Levels Bank, from which Access P is served;
- For Access Q, turn left onto the -A18 following it west before turning left onto High Levels Bank, from which Access Q is served; and
- For Access R, turn left onto the A18 following it west before turning left on to the unnamed road, form which Access R is served.
- For Access AK, continue north along the A161 for circa one kilometre, with Access AK on the western side of the road

**Construction**

Construction Traffic

12.5.84. The Applicant has confirmed the following construction periods for each of the Land Parcels which comprise Panel Areas for assessment purposes:

- Land Parcel A – 12 months (with peak construction over a four month period).
- Land Parcel B – 9 months (with peak construction over a two month period).
- Land Parcel C – 12 months (with peak construction over a three month period).

- Land Parcel D – 9 months (with peak construction over a three month period).
- Land Parcel E – 12 months (with peak construction over a three month period).

12.5.85. The Applicant has confirmed that they are likely to construct only two Land Parcels at any one time. The peak construction period in transport and access terms would comprise the construction of Land Parcel C and Land Parcel E simultaneously, as these Land Areas share sections of the proposed construction traffic route, as shown at Figure 4.1 of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**. However, for the purpose of this assessment it has been assumed that the entire Scheme could come forward at the same time. This ensures that all potentially impacted links are considered and provides a robust assessment of the impact of the construction of the Scheme on the highway network.

12.5.86. HGV deliveries will be made to construction compounds located across the Land Parcels. As set out above, new vehicular accesses will be created where required, or existing accesses will be widened as appropriate.

12.5.87. The construction compounds will accommodate deliveries by HGVs where they will decant equipment and materials. Some Panel Areas will require the materials to be transported from compounds within other Panel Areas via smaller vehicles (i.e. tractor and trailer) using the highway network. Where this is required, it has been assumed that a total of three tractor and trailers are required for every HGV delivery.

12.5.88. The construction of the Scheme will require Abnormal Indivisible Loads (AIL) for the transformer and substation deliveries. The deliveries will be planned with an AIL route assessment and will be escorted and managed along the route from the port of entry into the UK and the Site. Any impacts will be minimised, and the arrangements will be secured through an AIL assessment in due course in conjunction with CDC, NLC and the Police. Given the high level of management of these loads, no significant impacts are anticipated.

12.5.89. There will also be a small number of construction movements associated with smaller vehicles such as the collection of skips for waste management, the

transport of construction workers and sub-contractors to and from the Scheme and between construction locations.

Staff Trips

12.5.90. The Applicant has confirmed that up to 377 construction workers would be on Land Parcel C and E at any one time during the peak construction period. This is based on an assumption of 4.94 workers per acre. However, the assessment has been based on the construction of the Scheme occurring simultaneously and therefore a higher number of staff trips has been assessed with up to 880 staff across the entire Scheme.

12.5.91. The Applicant has advised that 75% of the construction workers will travel to the Scheme via 15 seater minibus, whilst the other 25% will arrive via private vehicle with an average of three workers per car, which is they consider to be a realistic assumption. This equates to 17 minibuses and 41 private cars per day (up to 116 two-way vehicle movements per day at peak times of construction).

12.5.92. Staff will travel from Doncaster, North Lincolnshire and East Riding of Yorkshire areas. Further details on the location of where staff will travel from is set out in **ES Chapter 11 Socio Economic [APP-048].**

Total Traffic Flows

12.5.93. Construction compounds will be provided across the Land Parcels. The number of deliveries will therefore be split between each Land Parcel and their respective compounds. The Applicant has provided the assumptions of 10 HGV movements and 8.84 Light Duty Vehicle (LDV) movements per hectare of each Panel Area during the peak construction period. This has been used to forecast the AADT vehicle movements associated with each Land Parcel, based upon the construction periods set out in **paragraph 12.5.10**:

- Land Parcel A – 90 two-way AADT movements per day (including 42 HGV AADT movements).
- Land Parcel B – 11 two-way AADT movements per day (including six HGV AADT movements).
- Land Parcel C - 42 two-way AADT movements per day (including 20 HGV AADT movements).

- Land Parcel D - 38 two-way AADT movements per day (including 18 HGV AADT movements).
- Land Parcel E - 54 two-way AADT movements per day (including 26 HGV AADT movements).

12.5.94. The impact on each of the links is set out in **Table 12-14**. As a robust assessment, and due to the port of entry not yet being confirmed as Goole or Immingham, the total Development Traffic Flows have been added to all links that comprise the SRN.

12.5.95. **Table 12-14** has also been updated to include an additional link (Link Twenty Five) which is the A161 between M180 Junction 2 and the A18. ~~reflect the change in the construction traffic route to access J and K, and updated flows for Link 8 (Green Bank)~~.

**Table 12-14: 2023 with Development Total Traffic Flows**

| Link | 2023 Baseline Two-Way AADT | With Dev Total Traffic Flow | Additional Two-way traffic Dev Total Traffic Flow (%age impact shown in square brackets) | | Traffic Flow Magnitude of Impact | |
|---|---|---|---|---|---|---|
| | | | Total Veh | HGVs | Total Veh | HGVs |
| Link One Marshland Road, N of The Avenue | 4,506 (521 HGVs) | 4,595 (563 HGVs) | 89 [1.9%] | 42 [8.1%] | Negligible | Low |
| Link Two North Common Road, E of Mount Pleasant Road | 3,244 (627 HGVs) | 3,333 (669 HGVs) | 89 [2.7%] | 42 [6.7%] | Negligible | Low |
| Link Three A614 Selby Road, S of the North Common Road | 6,457 (1,361 HGVs) | 6,546 (1,403 HGVs) | 89 [1.4%] | 42 [3.1%] | Negligible | Negligible |
| Link Four Marshland Road, N of Broadbent Gate Road | 8,706 (923 HGVs) | 8,795 (965 HGVs) | 89 [1.0%] | 42 [4.6%] | Negligible | Negligible |
| Link Five Coulman Street, N of Church Balk/Coulman Street/Moor Edges Road/Wike | 4,180 (464 HGVs) | 4,269 (506 HGVs) | 89 [2.1%] | 42 [9.1%] | Negligible | Low |

| Link | 2023 Baseline Two-Way AADT | With Dev Total Traffic Flow | Additional Two-way traffic Dev Total Traffic Flow (%age impact shown in square brackets) | | Traffic Flow Magnitude of Impact | |
|---|---|---|---|---|---|---|
| | | | Total Veh | HGVs | Total Veh | HGVs |
| Gate Road Junction | | | | | | |
| Link Six Moor Edges Road, E of the Church Balk/Coulman Street/Moor Edges Road/Wike Gate Road Junction | 840 (180 HGVs) | 929 (222 HGVs) | 89 [9.6%] | 42 [23.3%] | Low | Medium |
| Link Seven High Bridge Road, SE of Moor Road | 161 (24 HGVs) | 161 (24 HGVs) | 0 [0%] | 0 [0%] | Negligible | Negligible |
| Link Eight Green Bank, S of Clay Bank Road | 110 (13 HGVs) | 139 (27 HGVs) | 29 [26.3%] | 14 [107.7%] | Medium | High |
| Link Nine A614, Tudworth Road, N of the Tudworth Roundabout | 5,108 (640 HGVs) | 5,108 (640 HGVs) | 0 [0%] | 0 [0%] | Negligible | Negligible |
| Link Ten A18, High Levels Bank, E of the | 7,883 (1,446 HGVs) | 7,925 (1,466 HGVs) | 52 [<1%] | 30 [2.0%] | Negligible | Negligible |

| Link | 2023 Baseline Two-Way AADT | With Dev Total Traffic Flow | Additional Two-way traffic Dev Total Traffic Flow (%age impact shown in square brackets) | | Traffic Flow Magnitude of Impact | |
|---|---|---|---|---|---|---|
| | | | Total Veh | HGVs | Total Veh | HGVs |
| Tudworth Roundabout | | | | | | |
| Link Eleven A18 Tudworth Road, S of the Tudworth Roundabout | 7,950 (1,544 HGVs) | 7,983 (1,560 HGVs) | 53 [<1%] | 36 [2.3%] | Negligible | Negligible |
| Link Twelve A18 High Levels Bank, E of the Black Bull Inn | 7,582 (1,661 HGVs) | 7,619 (1691 HGVs) | 37 [<1%] | 30 [1.8%] | Negligible | Negligible |
| Link Thirteen A18 Tudworth Road, NE of Sandtoft Road | 8,289 (1714 HGVs) | 8,313 (1,726 HGVs) | 24 [<1%] | 12 [<1%] | Negligible | Negligible |
| Link Fourteen Sandtoft Road, E of A18 Tudworth Road | 2,318 (355 HGVs) | 2,342 (367 HGVs) | 24 [1.0%] | 12 [3.4%] | Negligible | Negligible |
| Link Fifteen Low Levels Bank, W of Moor Lane/Crow Tree Bank | 2,224 (388 HGVs) | 2,224 (388 HGVs) | 0 [0%] | 0 [0%] | Negligible | Negligible |
| Link Sixteen | 2,434 | 2,434 | 0 | 0 | Negligible | Negligible |

| Link | 2023 Baseline Two-Way AADT | With Dev Total Traffic Flow | Additional Two-way traffic Dev Total Traffic Flow (%age impact shown in square brackets) | | Traffic Flow Magnitude of Impact | |
|---|---|---|---|---|---|---|
| | | | Total Veh | HGVs | Total Veh | HGVs |
| A161 Eastoft Road, in between the Eastoft Road bus stop and the junction with Carr Lane | (361 HGVs) | (361 HGVs) | [0%] | [0%] | | |
| Link Seventeen Wharf Road, near the Park View bus stops | 8,279 (1,060 HGVs) | 8,290 (1,065 HGVs) | 11 [<1%] | 5 [<1%] | Negligible | Negligible |
| Link Eighteen A18 near Triangles Farm, southwest of Ealand | 5,317 (911 HGVs) | 5,388 (946 HGVs) | 71 [1.3%] | 35 [3.8%] | Negligible | Negligible |
| Link Nineteen Marsh Road W of junction with Windsor Road / Cross St | 113 (18 HGVs) | 122 (23 HGVs) | 11 [8.8%] | 5 [27.8%] | Low | Medium |
| Link Twenty M18 North of Junction 6. | 51,084 (12,062 HGVs) | 51,328 (12,206) | 235 [<1%] | 112 [<1%] | Negligible | Negligible |

| Link | 2023 Baseline Two-Way AADT | With Dev Total Traffic Flow | Additional Two-way traffic Dev Total Traffic Flow (%age impact shown in square brackets) | | Traffic Flow Magnitude of Impact | |
|---|---|---|---|---|---|---|
| | | | Total Veh | HGVs | Total Veh | HGVs |
| Link Twenty-One<br>M18 South of Junction 6. | 61,374 (13,110 HGVs) | 61,609(13,222 HGVs) | 235 [<1%] | 112 [<1%] | Negligible | Negligible |
| Link Twenty-Two<br>M180 East of M18 Junction 5 | 54,272 (12,840 HGVs) | 54,507 (12,952 HGVs) | 235 [<1%] | 112 [<1%] | Negligible | Negligible |
| Link Twenty-Three<br>M180 West of Junction 2. | 43,180 (10,692 HGVs) | 43,415 (10,804 HGVs) | 235 [<1%] | 112 [1.04%] | Negligible | Negligible |
| Link Twenty-Four<br>M180 East of Junction 2 | 45,971 (11,218 HGVs) | 46,206 (11,330 HGVs) | 235 [<1%] | 112 [1.0%] | Negligible | Negligible |
| Link Twenty – Five<br>A161 between M180 J2 and A18 | 5,281 (419 HGVs) | 5,321 (457 HGVs) | 40 [<1%] | 38 [9.1%] | Negligible | Low |

NOTE: *HGVs included within total traffic flow. Link flows are two-way.*

12.5.96. Environmental impact will occur as a result of vehicular traffic associated with the development proposals on the identified construction traffic routes. The impacts and effects are: increases in vehicular traffic, including HGVs. Increases in traffic generally result in a temporary Negligible level of impact significance (<5% increase in LDV or HGV traffic) and are therefore **Not Significant**.

12.5.97. With reference to **paragraph 12.3.4**, Link 8 (Green Bank) and Link 19 (Marsh Road) require further assessment on the basis that they have a medium and high sensitivity respectively ((as set out at **Appendix 12.2** Revision 3 **– Summary of Sensitive Receptors [~~REP3–~~ Document Reference 6.3.12.2 Revision 3~~024]~~)** ~~and~~ over a 10% impact in total and / or HGV traffic.

12.5.98. Link 24 (M180 east of Junction 2) comprises part of the SRN which is subject to National Highway's M180 renewal works. **Table 12-14** confirms that the Scheme will have no more than a one percent impact on the M180 in this location and therefore the significance of effect is considered to be negligible and Not Significant. However, the Applicant agrees to enter into an interface agreement to the extent it proves necessary to do so. The interface agreement would regulate the carrying out of works in the vicinity of the SRN to the extent necessary to safeguard delivery of the M180 renewal works. The Applicant agrees that close coordination will be required during delivery. This will be secured via the Outline CTMP [Document Reference 7.7 Revision 5~~Document Ref 7.7 Revision 3~~].

12.5.99. There would be no permanent closures or diversions of PRoW as part of the Scheme. However, temporary diversion of CROW21 may be required, as shown on the **Street Works, Access and Public Rights of Way Plan [REP3-004]** where cable installation works are taking place. Any such diversion would only be in effect during the installation of the cable, and a suitable alternative route will be provided that is equally as commodious as the existing PRoW. Where a temporary diversion is necessary, it will be implemented and managed appropriately in consultation with the local highway authority. The temporary diversion of PRoW is considered in **Section 12.6** of this Chapter.

Road Safety

12.5.100. As set out in the supporting **Appendix 12.1 - Transport Statement [APP-111]**, there is not considered to be any underlying highway safety problem on the

local highway network on the proposed construction traffic routes or within the vicinity of the access points proposed within the Scheme.

12.5.101. HGVs pose a greater road safety risk than cars and light goods vehicles when making turns into accesses or at junctions. The access arrangements proposed already minimise effects in these locations by providing suitable accesses to accommodate the swept paths of HGVs and appropriate visibility splays. Stage One Road Safety Audits of each access point have also been undertaken (enclosed at Appendix D of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**) and this raised no significant concerns.

12.5.102. The magnitude of change in road safety at Link 8 (Green Bank) is therefore likely to be considered negligible. Link 8 has a medium sensitivity (as set out at **Appendix 12.2 Revision 3~~2~~ - Summary of Sensitive Receptors [~~REP3-~~ Document Reference 6.3.12.2 Revision 3~~024~~])** and therefore the significance of effect is likely to be Negligible.

12.5.103. The magnitude of change in road safety at Link 19 (Marsh Road) is therefore likely to be considered negligible. Link 19 has a high sensitivity (as set out at **Appendix 12.2 Revision 3~~2~~ - Summary of Sensitive Receptors [~~REP3-~~ Document Reference 6.3.12.2 Revision 3~~024~~]**and therefore the significance of effect is likely to be Negligible.

12.5.104. During the Construction Phase there will be direct, short-term, temporary, negative effects on road safety. Overall, they are of a Negligible level of impact significance, and therefore **Not Significant** in EIA terms.

Severance

12.5.105. The IEMA traffic guidelines **[Ref. 12-1]** states *'In the context of a traffic and movement assessment, severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure… Severance may result from the difficulty of crossing a heavily trafficked toad or a physical barrier created by infrastructure'*.

12.5.106. The IEMA traffic guidelines **[Ref. 12-1]** suggests that *"changes in traffic flow of 30%, 60% and 90% are regarded as producing slight, moderate and substantial changes in severance respectively."*

12.5.107. In accordance with **Table 12-4,** all assessment links are considered to be subject to a negligible magnitude of change in severance based upon the increase of vehicle traffic flows of less than 30%. Therefore, the effect is considered to be **Negligible** and therefore **Not Significant**.

12.5.108. As set out at **paragraph 12.5.93**, Land Parcel B is forecast to be associated with 11 two-way AADT movements per day (including six HGV AADT movements). Panel areas B1, B2, B3 and B4 (**Figure 1.3 Development Parcels Plan [APP-131]**), which are located to the north of Crook O'Moor Road and for which vehicles must cross PRoW CROW21, comprise 28.07 hectares of the total Land Parcel B area (total 130.04 hectares), equating to 21.6%. As such, a total of two AADT vehicle movements (including one HGV AADT movements) could be required to cross Crook O'Moor Road and CROW21. This is not considered to be material. Crook O'Moor Road is not a major transport link that separates communities at present, nor does it connect to other PRoW routes to the southwest. It is mainly used for private access to agricultural land. The addition of the construction traffic associated with the Proposed Development will have a negligible impact on severance. The effect is considered to be **Negligible** and therefore **Not Significant**.

12.5.109. The implication of a PRoW diversion or closure on severance is considered in the residual effects section of this chapter.

Driver Delay

12.5.110. IEMA traffic guidelines **[Ref. 12-1]** states that '*The assessment of driver delay will normally be based on the technical work reported within the Transport Assessment, which generally focuses on conditions in the network peak periods'*.

12.5.111. Link 8 (Green Bank) has an existing peak hour flow of up to 22 two-way vehicle movements and 110 two-way movements per day (the relevant data is included at **Appendix 12.3 - Baseline Traffic Survey Report [Document Reference 6.3.12.3]**. **Table 12-14** confirms that Link 8 could be associated with up to 15 two-way total vehicle movements per day equating to a 26.3% increase and Medium magnitude of change based on **Table 12-4**.

12.5.112. Link 8 has a medium sensitivity (as set out at **Appendix 12.2 Revision ~~2~~3 - Summary of Sensitive Receptors [~~REP3-~~Document Reference 6.3.12.2**

Revision 3~~024]),~~ resulting in a **Moderate** significance of effect and therefore **Significant** in EIA terms**.** It should be noted that there is a low baseline number of total traffic and HGVs using the link. The increase in HGVs is therefore disproportionate, and the assessment should consider both the absolute figures and the overall vehicle mix, in line with the IEMA Guidelines. The absolute vehicle increase per day is 29 vehicles, of which 14 are HGVs. The overall significance of effect is therefore considered to be **Not Significant** in this context.

12.5.113. Link 19 (Marsh Road) has an existing peak hour flow of up to 10 two-way vehicle movements and 113 two-way movements per day (the relevant data is included at **Appendix 12.3 - Baseline Traffic Survey Report [APP-113]**. **Table 12-14** confirms that Link 19 could be associated with up to 11 two-way total vehicle movements per day equating to a 9.7% increase and Low magnitude of change based on **Table 12-4**.

12.5.114. Link 19 has a high sensitivity (as set out at **Appendix 12.2 Revision 3~~2~~ - Summary of Sensitive Receptors [~~REP3–~~Document Reference 6.3.12.2 Revision 3~~024]),~~** resulting in a **Moderate** significance of effect and therefore **Significant** in EIA terms**.** However, it should be noted that there is a low baseline number of total traffic and HGVs using the link which affects the percentage increase in vehicle flow and magnitude of change. The increase in HGVs is therefore disproportionate, and the assessment should consider both the absolute figures and the overall vehicle mix, in line with the IEMA Guidelines. The absolute vehicle increase per day is 11 vehicles, of which 5 are HGVs. The overall significance of effect is therefore considered to be **Not Significant** in this context.

Non-Motorised User Delay

12.5.115. The IEMA traffic guidelines **[Ref. 12-1]** suggests that the assessment of impact on NMU delay should be based upon professional judgement.

12.5.116. The northern end of Link 8 (Green Bank) provides a non-motorised user connection onto the Stainforth and Keadby Canal Path. It is considered that there would be a very low number of non-motorised user movements along Green Bank to access the Canal Path in real terms per day, due to the absence of any connecting PRoW to the south. Green Bank is a straight road with suitable forward visibility between non-motorised users and vehicles along its

length. Due to the nature of the road, vehicles also travel slower than the National Speed Limit of the road, with vehicle speeds recorded to be around 30mph, on average (the relevant data is included at **Appendix 12.3 - Baseline Traffic Survey Report [APP-113]**. **Table 12-14** confirms that Link 8 could be associated with up to an additional 15 two-way total vehicle movements per day, which equates to around two vehicles per hour across the course of the proposed working hours. The magnitude of change is therefore considered to be negligible, and with reference to the medium sensitivity of the link, the significance of effect is **Negligible** and **Not Significant.**

12.5.117. The eastern end of Link 19 (Marsh Road) follows the alignment of bridleway CROW18. However, the route of the PRoW already follows the alignment of the carriageway and Marsh Road is already used by large agricultural machinery. **Table 12.14** confirms that Link 19 could be associated with up to 11 two-way total vehicle movements per day, which equates to around one vehicle per hour across the course of the proposed working hours at the site. The magnitude of change is therefore considered to be negligible, and with reference to the sensitivity of the link, the significance of effect is **Negligible** and **Not Significant.**

12.5.118. CROW21 follows Crook O'Moor Road which bisects Land Parcel B. As set out at **paragraph 12.5.108**, the forecast AADT movements in the vicinity of this PRoW are very low. Non-motorised users may experience occasional minor delays where construction vehicles are required to cross the PRoW in this location. However, given the low forecast flow of two AADT movements) and the low numbers of existing users of the PRoW per day (set out in **Table 12-10**), this would lead to a negligible magnitude of change, and a negligible adverse effect (**not significant**).

12.5.119. Appropriate traffic management and safety measures will be implemented to ensure the safe movement of both construction traffic and PRoW users, as set out further in the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**. Should the PRoW be diverted as part of the proposals, there would be a negligible magnitude of change on NMU delay on the PRoW due to an alternative route being provided that is no less commodious than the existing route. ~~.~~ The implication of a PRoW diversion or closure on NMU delay is considered in the residual effects section of this chapter.

Non-Motorised User Amenity

12.5.120. The IEMA traffic guidelines **[Ref. 12-1]** suggests that a threshold for judging this would be '*where the traffic flows (or its lorry component) is halved or doubled*'.

12.5.121. On Link 8, there is forecast to be a 107.7% increase in HGVs as a result of the Scheme which is considered to be a high magnitude of change. As the link has a medium sensitivity, this would result in a major significance which is **significant** in EIA terms. It should be noted that there is a low baseline number of total traffic and HGVs using the link. The increase in HGVs is therefore disproportionate, and the assessment should consider both the absolute figures and the overall vehicle mix, in line with the IEMA Guidelines. The absolute vehicle increase per day is 29 vehicles, of which 14 are HGVs. The overall significance of effect is therefore considered to be **Not Significant** in this context.

12.5.122. Forecast HGV flows on Link 19 are not forecast to double and therefore the significance of effect is considered to be Negligible and **Not Significant.**

12.5.123. CROW21 follows Crook O'Moor Road which bisects Land Parcel B. As set out at paragraph **12.5.109**, the forecast AADT movements in the vicinity of this PRoW are very low. Non-motorised users may experience reduced amenity in this location as a result of construction activities.

12.5.124. However, should the PRoW be diverted as part of the proposals, there would be a negligible magnitude of change on NMU amenity due to an alternative route being provided that separates users of the PRoW from construction traffic. Appropriate traffic management and safety measures will be implemented and maintained for users, as set out further in the **Outline CTMP** [~~**REP3-041**~~**Document Reference 7.7 Revision 5**]**.** This is considered in the residual effects section of this chapter.

Fear and Intimidation

12.5.125. The IEMA traffic guidelines **[Ref. 12-1]** suggest that a threshold for judging fear and intimidation would be assessing the degree of hazard with reference to previously established thresholds (as set out in **paragraphs 12.3.7 to 12.3.10**).

12.5.126. Link 8 is associated with an AADT of 110 vehicles (including 13 HGVs) during the 'without development' scenario and an AADT of 139 vehicles (including 25 HGVs) 'with development'. The posted speed limit is 60mph and this will not change as

a result of the Scheme. The total 18 hour HGV flow is less than 1,000 vehicles. The Scheme therefore has a 'moderate level of fear and intimidation, both with and without development meaning there is no step change and therefore a negligible magnitude of change. Therefore, the overall significance of effect is considered to be Negligible and **Not Significant** when **Table 12-8** is applied.

12.5.127. Link 19 is forecast to be associated with an AADT of 113 vehicles (including 18 HGVs) during the 'without development' scenario and an AADT of 132 vehicles (including 20 HGVs) 'with development'. The posted speed limit is 30mph and this will not change as a result of the Scheme. The total 18 hour HGV flow is less than 1,000 vehicles. The Scheme therefore has a 'small' level of fear and intimidation, both with and without development meaning there is no step change and therefore a negligible magnitude of change. Therefore, the overall significance of effect is considered to be Negligible and **Not Significant** when **Table 12-8** is applied.

12.5.128. With consideration to Crook O'Moor Road and CROW21, whilst no baseline traffic data is available in this location, the nature and use of the route is considered comparable to Marsh Road (Link 19) and the overall significance of effect is therefore considered to be Negligible and **Not Significant**.

Hazardous Loads / Large Loads

12.5.129. The IEMA traffic guidelines **[Ref. 12-1]** suggest that where frequent abnormal load movements are anticipated that the impacts on fear and intimidation, driver delay etc. should be considered.

12.5.130. The Scheme will require Abnormal Indivisible Loads (AIL) on an infrequent basis. The deliveries will be planned with an AIL route assessment which will be secured as a Requirement of the DCO. The AILs will be escorted and managed along the route from the port of entry into the UK and the Order Limits. This will be secured by requirement via the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]**.

12.5.131. The Scheme will not be associated with frequent AIL movements and therefore in accordance with the IEMA traffic guidelines **[Ref. 12-1]** the magnitude of impact is considered to be negligible. All links, except Link 8 (Green Bank), which has a medium sensitivity, and Link 19 (Marsh Road) which has a high sensitivity, have a negligible sensitivity (as set out at **Appendix 12.2 Revision 3~~2~~ - Summary of Sensitive Receptors [~~REP3-~~Document Ref 6.3.12.2 Revision**

3~~024~~]). ~~-~~As such, is the significance of effect is negligible and there will be **No Significant** effects.

Other Impacts

12.5.132. The key potential impacts of construction traffic to be considered are:

- unsocial hours disturbance.
- mud on the roads; and

12.5.133. dust, noise and air quality nuisance (these are assessed within the **ES Chapter 13 Noise and Vibration [REP**4-017~~2-023, REP2-024~~**]** and **ES Chapter 14 Air Quality and Greenhouse Gases [REP2-025**]~~, REP2-026~~ respectively.

12.5.134. It is envisaged that the construction working hours at the Scheme will generally be 07:00-19:00 Monday to Saturday and 09:00 to 13:00 on Sundays. There will be no work on Sundays before 09:00 or after 13:00, or on Bank Holidays unless otherwise agreed with the local planning authorities. In some circumstances, such as when drilling for the cable works has begun and cannot be stopped until it is complete, operational hours may be required to be extended beyond 19:00. However, it is considered that this will be an infrequent occurrence as works will be planned to avoid nighttime hours and works will typically be complete by 19:00. No material difference to the traffic forecasts will occur if the working hours are longer, as the assessment is based on the average number of vehicle trips per day during the peak of the temporary construction period. Noise related to construction traffic movements is assessed by a Noise specialist in **ES Chapter 13 Noise and Vibration [REP**4-017~~2-023, REP2-024~~**]**.

12.5.135. In hot, dry conditions dust will be managed through the provision of sprinklers. The transfer of mud on to the local highway will be managed through the provision of wheel washing facilities at the point where the access road meets the adopted highway, although this is likely to be minimal due to the use of existing tracks and the runway within the site. A road sweeper can also be provided as and when necessary.

12.5.136. Mitigation measures are set out in detail in Section 12.5 and in the **Outline CTMP [**~~REP3-041~~Document Reference 7.7 Revision 5**]**.

**Operation**

12.5.137. Once operational, it is anticipated that there could be one maintenance trip to the Scheme per month (i.e. a total of two movements) associated with equipment maintenance, ground maintenance, security checks etc. This would typically be made by light van or 4x4 type vehicles.

12.5.138. There will also be approximately one visit per day to each Land Parcel associated with a Shepherd (for sheep grazing on site). The vehicles required for operational purposes frequently use the local highway network on a daily basis.

12.5.139. All links will be subject to a negligible magnitude of change based on the increase in traffic flows of less than 5% and a negligible magnitude of change based on there being no HGV traffic. The sensitivity of the links (as set out at **Appendix 12.2 Revision ~~2~~3- Summary of Sensitive Receptors [~~REP3–~~ Document Reference 6.3.12.2 Revision 3~~024~~]**) are negligible to high. Therefore, the effect is considered to be negligible and **Not Significant.**

12.5.140. During the operational phase there will be no direct, long-term, temporary, negative effects.

**Decommissioning**

12.5.141. The activities involved in the decommissioning process for the Scheme are not yet known in detail. The likely timeframes are set out in paragraph 2.3.3. It is anticipated that the Scheme will become fully operational in 2032 and is expected to be decommissioned in 2072, with an operational life of 40 years. There would be expected to be some traffic movements associated with the removal (and recycling, as appropriate) of material arising from removal. However, vehicle numbers are not expected to be any higher than those experienced during the construction period, and may be less if the grid connection is phased.

12.5.142. A similar number of vehicles are likely to be required for the decommissioning of the Scheme as the construction. This equates to around 42,120 two-way vehicular trips plus 17 crew minibuses per day (34 two-way trips). Assuming a decommissioning period of two years and a 6.5 day working week (660 days total), this equates to around 64 two-way vehicular movements per day or an AADT value of around 55 two-way movements ((64 x 6)/7) across the whole Scheme. This could be higher or lower at times depending on the stage of

decommissioning, but would be no higher than the peak number of movements during the construction stage.

12.5.143. Current baseline data collected for the purposes of this assessment will not be valid at the year of decommissioning. However, it is considered unlikely that baseline traffic figures on local roads will reduce over the next 40 years or more, it is considered that the percentage increase in traffic due to decommissioning would be Negligible, due to the conclusions reach for the construction phase, and that overall the effects of decommissioning traffic would be no greater than that of the construction traffic detailed and assessed above. Effects are therefore assessed as likely to be **Not Significant** for most links. For Link 8 (Green Bank) and Link 19 (Marsh Road) there could be direct, short team, temporary **Significant** effects on Driver Delay.

## 12.6. Mitigation, Enhancement and Residual Effects

Construction Phase

*Mitigation by Design*

12.6.1. The proposed site access arrangements will be provided at an early stage of each relevant land parcel / phase. This includes the visibility splays at each access point.

12.6.2. As set out in the **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision ~~4~~6]** standard measures and the adoption of construction best practice methods are to be incorporated and embedded into the design of the Scheme and the methods of its construction, in order to avoid, reduce or manage adverse environmental effects.

*Additional Mitigation*

12.6.3. A CTMP will be implemented during the construction phase of the project, based on the principles of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** and secured by DCO requirement), as additional mitigation. The aim of the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** is to reduce the impact of the construction phase on residents, businesses, and the highway network. Construction deliveries will be kept to agreed delivery hours where practicable and designed to reduce disruption to the highway network

and residents (including during the night-time) by avoiding the peak hours, particularly on the SRN.

12.6.4. The **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** contains a package of mitigation measures which includes:

- Provision of contractor's compounds within the Order Limits, providing an area on site for HGVs to park and manoeuvre, off the local highway network.
- The arrival and departure of the HGVs will be strictly managed by the site manager, to avoid sensitive receptors where possible. The drivers will adhere to a delivery schedule and will be required to call ahead to ensure that any emerging vehicles can be held within the compound. No HGVs will therefore be required, or permitted, to wait on the public highway.
- Details limiting the hours of site operation and the routing of construction traffic to protect local residential areas from construction traffic, especially from HGVs where possible.
- Details limiting hours of delivery to avoid the peak hours on the SRN and avoiding the start and end of the school day within Crowle.
- The introduction of wheel washing facilities should ground condition dictate, before allowing vehicles to return to the local highway.
- Temporary signage will be erected in the vicinity of the Scheme and along the construction traffic routes as appropriate during the construction phase to indicate that heavy construction vehicles are turning; and
- The contact details of the contractor and those of the highway department at CDC and NLC will be exchanged before commencement of works on site. This will allow for any issues to be resolved efficiently.

12.6.5. Mitigation and management procedures will be put in place where the PRoWs cross through the Scheme. These measures will include:

- When construction plant and machinery are accessing a relevant Land Parcel, a banksman will be employed to control both movements on the

PRoW and HGV traffic. Banksmen will ensure that users of the PRoW always have priority.

12.6.6. Where possible fencing will be placed along the PRoW routes where they cross the Scheme with gated sections in the vicinity of the internal access tracks. Vehicles will only be permitted to cross the PRoW at these designated crossing points. Only smaller vehicles will be required to cross the PRoW at the designated crossing points.

12.6.7. Signage will be erected at either end of the affected PRoWs in the vicinity of the Scheme boundary advising users of ongoing construction activities. Further signage will be positioned on all approaches to each crossing point for both construction traffic and PRoW users.

12.6.8. Temporary diversion of PRoW CROW 21, which traverses Land Parcel B, may be required during the construction period in order to separate members of the public from the construction vehicles and machinery. If the PRoW needs to be closed temporarily during construction, an alternative route will be provided. Any temporary route will be equally commodious for users in terms of length, terrain and amenity. At this stage, it is anticipated that CROW21 could be diverted into panel areas B6 and B5, to avoid any works being undertaken on Crook O'Moor Road before emerging again on to CROW21. This would result in a minimal extension to the length of the PRoW route for a temporary period.

12.6.9. The Applicant will provide the diversion / alternative routes prior to construction, so that local communities can continue to make use of the PRoW and enjoy the local area during this stage of the Proposed Development.

12.6.10. Requirement 20 of the **Draft DCO [~~Document Reference 3.1 Revision 7~~ Document Reference 3.1 Revision 9]** controls the exercise of the temporary closure and restriction powers in respect of PRoW by requiring that, prior to their exercise, (i) the scope of a pre-commencement condition survey must be submitted to and approved by the highway authority and the survey then carried out and submitted, and (ii) a reinstatement plan must also be submitted to and approved by the highway authority. The reinstatement plan must include details of the works required to reinstate the affected PRoW in accordance with the approved condition survey and a timetable for those works, and the authorised development must be carried out in accordance with the approved plan.

12.6.11. Any temporary diversion will cease following construction of the relevant works. Temporary diversion of the PRoW would also take place during decommissioning.

12.6.12. A summary of the mitigation proposed for Transport and Access is included in **Table 12-15**.

**Table 12-15: Mitigation**

| Ref | Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects | How measure would be secured | |
|---|---|---|---|
| | | By Design | By DCO Requirements |
| 1 | Outline Construction Traffic Management Plan **[~~REP3-041~~Document Reference 7.7 Revision 5]** | | X |
| 2 | Outline Decommissioning Environmental Management Plan **[REP5-018~~2-066, REP2-067~~]** | | X |
| 3 | Diversion of PRoW, as required | | X |

**Enhancements.**

12.6.13. Enhancements are provided through a new Permissive Path being installed, creating a loop around Land Parcel A and connecting to the existing Thorne-19 Public Right of Way. This will be in place for the 40 year lifetime of the Scheme and are indicated on **ES Figure 2.2a – Indicative Operational Layout Plan (Fixed Solar Panel)/2.2b – Indicative Operational Layout Plan (Fixed and Tracker Solar Panel)** [**CR1-018 and CR1-019**].

Operational Phase

*Mitigation by Design*

12.6.14. The access points created during the construction phase will be retained during the operational phase. Visibility splays at the site access points will be maintained to no more than 600mm in height once the Scheme is operational (secured within the Outline Operational Environment Management Plan (OEMP) [~~**Document Reference 7.2 Revision 2**~~REP5-024**]**. No other mitigation is proposed once the Scheme is operational due to the low vehicular movements associated with the Scheme.

**Residual Effects**

Construction Phase

*Road Safety*

12.6.15. The residual significance of effect on Link 8 and Link 19 in terms of road safety is **Not Significant.**

*Severance*

12.6.16. All assessment links are considered to be subject to a negligible magnitude of change in severance based upon the increase of vehicle traffic flows of less than 30%. Therefore, the residual effect is considered to be **Negligible** and therefore **Not Significant**.

*Driver Delay*

12.6.17. On Link 8 (Green Bank), the effect of increases in HGV movements on driver delay is considered to be Moderate and therefore **Significant** in EIA terms. The mitigation measures discussed above are forecast to reduce the residual impact of the construction phase by one level of significance, resulting in a Minor significance of effect. This is **Not Significant** in EIA terms.

12.6.18. On Link 19 (Marsh Road), the effect of increases in HGV movements on driver delay is considered to be Moderate and therefore **Significant** in EIA terms.

12.6.19. The mitigation measures discussed above are forecast to reduce the residual impact of the construction phase by one level of significance, resulting in a Minor significance of effect. This is **Not Significant** in EIA terms. However, as set out above, the low existing baseline is likely to overestimate the magnitude of impact on Marsh Road and a lesser significance of effect is considered more likely.

*Non-Motorised User Delay*

12.6.20. The residual significance of effect on Link 8 and Link 19 in terms of NMU delay is **Not Significant.**

*Fear and Intimidation*

12.6.21. The residual significance of effect on Link 8 and Link 19 in terms of fear and intimidation is **Not Significant.**

*Hazardous Loads / Large Loads*

12.6.22. The residual significance of effect on Link 8 and Link 19 in terms of hazardous loads / large loads is **Not Significant.**

Consideration of residual effects upon CROW21

12.6.23. Mitigation for PRoW CROW21 relates to temporary traffic management and the temporary diversion of the route.

*Severance*

12.6.24. The diversion of the PRoW would have a negligible impact on severance as the diverted route could follow the same east-west aligment as the existing PRoW, adjacent to Crook O'Moor Road. The residual effect is considered to be **Negligible** and therefore **Not Significant**.

12.6.25. In the event of a closure, the CROW21 route would not be available for use whilst construction works are ongoing. As set out at paragraph 12.5.108, Crook O'Moor Road does not connect to other PRoW routes to the southwest (it connects to Medge Hall / Crook O'Moor Bridge which crosses the canal, and rural roads with no footways to the south of the canal). It is mainly used for private access to agricultural land. Paragraph 12.4.37 suggests that the PRoW is used as a recreational route (i.e. people walking down the PRoW and back again) and there

are alternative PRoW routes surrounding Crowle should the need arise. The residual effect of a temporary diversion is therefore considered to be **Negligible** and therefore **Not Significant**.

*NMU Delay*

12.6.26. The provision of a temporary diversion of CROW21 within the panel areas adjacent to Crook O'Moor Road would ensure that a route for the PRoW that is equally commodious remains in place during the construction phase. Therefore, the residual effect of NMU delay on CROW21 is considered to be **Negligible** and therefore **Not Significant**.

*NMU Amenity*

12.6.27. In the event that CROW21 is temporarily diverted, there would be a negligible magnitude of change on NMU amenity due to an alternative route being provided that separates users of the PRoW from construction traffic. The residual effect is considered to be **Negligible** and therefore **Not Significant**.

Operational Phase

12.6.28. It is considered there would be **No Significant** (adverse) residual effects as a result of the operational phase.

Decommissioning Phase

12.6.29. The impact significance during decommissioning is considered to be similar to that experienced during the construction phase and therefore is generally **Not Significant.**

12.6.30. For Driver Delay on Link 8 and Link 19 there will be **Significant** effects. The mitigation measures discussed above, primarily the Outline Decommissioning Management Plan, are forecast to reduce the residual impact of the construction phase by one level of significance, resulting in a Minor significance of effect. This is **Not Significant** in EIA terms.

12.6.31. The residual effects on PRoW CROW21 during the decommissioning phase are likely to be similar to those set out above for the construction phase.

## 12.7. Summary

### Introduction

12.7.1. This **ES Chapter 12 Transport and Access [Document Reference 6.2.12 Revision ~~3~~4]** assesses the potential likely significant effects of the Scheme on vehicular traffic flows, severance, driver delay, non-motorised user delay, non-motorised amenity, road safety, fear and intimidation, and hazardous/large loads.

12.7.2. This ES chapter has been prepared alongside a supporting **Transport Statement [APP-111]** (**Appendix 12.1**) and **Outline Construction Traffic Management Plan [~~REP3-041~~Document Reference 7.7 Revision 5]**.

### Baseline Conditions

12.7.3. The Scheme is centred at approximately ten kilometres to the northeast of Doncaster and 14 kilometres to the west of Scunthorpe. Access to the site during the construction and operational phases is anticipated to be provided from Moor Edges Road; High Bridge Road; the A18 Tudworth Road; Marsh Road; an unnamed access road which links the A161 and High Levels Bank; High Levels Bank; Sandtoft Road and Low Levels Bank.

12.7.4. Data from the most recent five-year period shows that there are not any existing highway safety issues on the local highway network that would be exacerbated by the Scheme.

12.7.5. The Scheme currently comprises agricultural land uses. Access to the Order Limits is currently provided via agricultural access points in multiple locations on the local highway network.

### Proposed Access Arrangements

12.7.6. Due to the large-scale nature of the Scheme, there are multiple access points proposed, as set out in detail in the **Outline CTMP [~~REP3-041~~Document Reference 7.7 Revision 5]** and summarised in **Table 12-13** of this Chapter.

12.7.7. Suitable visibility splays can be provided for each access location within the extents of the Order Limits and all construction vehicles will enter and exit the

Scheme in forward gear, as shown on Outline CTMP Figure 3.2 Revision 2 to Figure 3.33 Revision 2 (Proposed Access Arrangements – Access A to Access AG; (enclosed at **Appendix 12.4 [REP3-026]**)). Vegetation within the visibility splays will be maintained at a height of no more than 600mm, and any loss of vegetation is set out in the Outline Landscape Ecological Management Plan (LEMP) within Volume 7 of the ES [**Document Reference 7.6 Revision 6~~5~~].**

12.7.8. All access points, including the visibility splays, will be provided at the start of the construction of each relevant land parcel and therefore will form embedded mitigation (mitigation by design).

**Likely Significant Effects**

12.7.9. Impact Magnitudes have been defined for the construction phase with regard to the IEMA traffic guidelines, which states that a significant environmental impact may occur when traffic flows (or its HGV component) increase by 30% (or 10% where a link is of high sensitivity significance).

Construction

12.7.10. The impact of the construction phase traffic is generally considered to be of Negligible to Moderate significance. On Link 8 (Green Bank) and Link 19 (Marsh Road) there are significant effects relating to Driver Delay and on Link 8 relating to Non Motorised User Amenity. There will therefore be a direct, temporary, medium-term minor to moderate adverse residual effect during the construction phase. However, there is a low baseline number of total traffic and HGVs using the link which affects the percentage increase in vehicle flow and magnitude of change. The increase in HGVs is therefore disproportionate, and the assessment should consider both the absolute figures and the overall vehicle mix. The absolute vehicle increase per day very low. The overall significance of effect is therefore considered to be **Not Significant** in this context.

12.7.11. There would be no permanent closures or diversions of PRoW as part of the Scheme. However, temporary closures and / or diversions may be required across the Order limits, as shown on the **Street Works, Access and Public Rights of Way Plan [REP3-004]**. Temporary diversions may be required in limited locations where cable installation works are taking place. Any such diversion would only be in effect during the installation of the cable, and a

suitable alternative route that is as equally commodious will be provided. Where a temporary diversion is necessary, it will be implemented and managed appropriately in consultation with the local highway authority.

12.7.12. The provision of a temporary diversion of CROW21 within the panel areas adjacent to Crook O'Moor Road would ensure that a route that is as equally commodious as the existing PRoW remains in place during the construction phase. Therefore, the residual effect of severance, NMU delay and NMU amenity on CROW21 is considered to be **Negligible** and therefore **Not Significant**.

Operation

12.7.13. Once operational, all assessed links will be subject to a negligible magnitude of change based on the increase in traffic flows of less than 5% and a negligible magnitude of change based on there being no HGV traffic. The sensitivity of the links (as set out at **Appendix 12.2 Revision ~~2~~3 – Summary of Sensitive Receptors [~~REP3–~~Document Reference 6.3.12.2 Revision 3~~O24~~]**) are negligible to high. During the operational phase there will therefore be no direct, long-term, temporary, negative effects.

Decommissioning

12.7.14. The impact of the decommissioning phase traffic is generally considered to be of Negligible to Moderate significance. On Link 8 (Green Bank) and Link 19 (Marsh Road) there are significant effects relating to Driver Delay. There will therefore be a direct, temporary, medium-term moderate to minor adverse residual effect during the construction phase following the implementation of the Decommissioning Environmental Management Plan. However, there is a low baseline number of total traffic and HGVs using the link which affects the percentage increase in vehicle flow and magnitude of change. The increase in HGVs is therefore disproportionate, and the assessment should consider both the absolute figures and the overall vehicle mix. The absolute vehicle increase per day very low. The overall significance of effect is therefore considered to be **Not Significant** in this context.

**Mitigation and Enhancement**

12.7.15. Mitigation has been provided in the form of an **Outline Construction Traffic Management Plan [~~REP3–041~~Document Reference 7.7 Revision 5]** to reduce the impacts of the construction phase. The document includes a range of

management and mitigation measures to reduce the impacts of the construction phase. On Link 8, the proposed mitigation is forecast to reduce the significance of effect of Major to Moderate and **Significant** in EIA terms. However, due to the low baseline number of total traffic and HGVs using the link this affects the percentage increase in vehicle flow and magnitude of change. On Link 19, the proposed mitigation is forecast to reduce the significance of effect of Moderate to Minor and **Not Significant**.

**Conclusion**

12.7.16. It is concluded that the proposed package of mitigation measures will ensure that the Scheme is acceptable and that there will be **No (adverse) Significant effects**.

12.7.17. There are therefore no highways or transportation reasons which should prevent the Scheme.

12.7.18. **Table 12-16** provides a summary of effects, mitigation and residual effects.

**Table 12-16: Summary of effects, mitigation and residual effects**

| Receptor / Receiving Environment | Description of Effect | Nature of Effect | Sensitivity Value | Magnitude of Effect | Geographical Importance | Significance of Effects | Mitigation / Enhancement Measures | Residual Effects |
|---|---|---|---|---|---|---|---|---|
| **Construction / Decommissioning** | | | | | | | | |
| Link Eight – Green Bank South of Clay Bank Road | Road Safety | Temporary / Direct | High | Negligible | Local | Negligible | Provision of an Outline CTMP | Negligible Adverse **(Not Significant)** |
| | Severance | | | Negligible | | Negligible | | Negligible Adverse **(Not Significant)** |
| | Driver Delay | | | Medium | | Moderate | | Minor Adverse (**Not Significant**) |

| Receptor / Receiving Environment | Description of Effect | Nature of Effect | Sensitivity Value | Magnitude of Effect | Geographical Importance | Significance of Effects | Mitigation / Enhancement Measures | Residual Effects |
|---|---|---|---|---|---|---|---|---|
| | Non-Motorised User Delay | | | Negligible | | Negligible | | Negligible Adverse **(Not Significant)** |
| | Non-Motorised User Amenity | | | High | | Major | | Moderate Adverse (**Significant**) |
| | Fear and Intimidation | | | Negligible | | Negligible | | Negligible Adverse **(Not Significant)** |
| | Hazardous and Large Loads | | | Negligible | | Negligible | | Negligible Adverse |

| Receptor / Receiving Environment | Description of Effect | Nature of Effect | Sensitivity Value | Magnitude of Effect | Geographical Importance | Significance of Effects | Mitigation / Enhancement Measures | Residual Effects |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **(Not Significant)** |
| Link Nineteen - Marsh Road, west of the junction between Windsor Road/Cross Street | Road Safety | Temporary / Direct | High | Negligible | Local | Negligible (Not Significant) | Provision of an Outline CTMP | Negligible Adverse **(Not Significant)** |
| | Severance | | | Negligible | | Negligible (Not Significant) | | Negligible Adverse **(Not Significant)** |
| | Driver Delay | | | Low | | Moderate (Significant) | | Minor Adverse **(Not Significant)** |

| Receptor / Receiving Environment | Description of Effect | Nature of Effect | Sensitivity Value | Magnitude of Effect | Geographical Importance | Significance of Effects | Mitigation / Enhancement Measures | Residual Effects |
|---|---|---|---|---|---|---|---|---|
| | Non-Motorised User Delay | | | Negligible | | Negligible (Not Significant) | | Negligible Adverse **(Not Significant)** |
| | Non-Motorised User Amenity | | | Negligible | | Negligible (Not Significant) | | Negligible Adverse **(Not Significant)** |
| | Fear and Intimidation | | | Negligible | | Negligible (Not Significant) | | Negligible Adverse **(Not Significant)** |
| | Hazardous and Large Loads | | | Negligible | | Negligible (Not Significant) | | Negligible Adverse |

| Receptor / Receiving Environment | Description of Effect | Nature of Effect | Sensitivity Value | Magnitude of Effect | Geographical Importance | Significance of Effects | Mitigation / Enhancement Measures | Residual Effects |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **(Not Significant)** |
| **Operation** | | | | | | | | |
| All | Road Safety | Temporary / Direct | Negligible / Medium / High | Negligible | Local, Borough/ District | Negligible (Not Significant) | n/a | Negligible Adverse **(Not Significant)** |
| | Severance | | | Negligible | | Negligible (Not Significant) | | |
| | Driver Delay | | | Negligible | | Negligible (Not Significant) | | |

| Receptor / Receiving Environment | Description of Effect | Nature of Effect | Sensitivity Value | Magnitude of Effect | Geographical Importance | Significance of Effects | Mitigation / Enhancement Measures | Residual Effects |
|---|---|---|---|---|---|---|---|---|
| | Non-Motorised User Delay | | | Negligible | | Negligible (Not Significant) | | |
| | Non-Motorised User Amenity | | | Negligible | | Negligible (Not Significant) | | |
| | Fear and Intimidation | | | Negligible | | Negligible (Not Significant) | | |
| | Hazardous and Large Loads | | | Negligible | | Negligible (Not Significant) | | |

## 12.8. References


- Ref. 12-1: Institute of Environmental Management and Assessment (IEMA) guidelines: 'Environmental Assessment of Traffic and Movement' (2023)
- Ref. 12-2: The Highways Act 1980
- Ref. 12-3: Overarching National Policy Statement (NPS) for Energy (EN-1) 2024 - (Section 5.4 'Traffic and Transport')
- Ref. 12-4: National Policy Statement for Renewable Energy Infrastructure (EN-3) 2024 - Section 2.10 'Solar Photovoltaic Generation')
- Ref. 12-5: National Planning Policy Framework (2024)
- Ref. 12-6: Planning Practice Guidance (2014)
- Ref. 12-7: Doncaster Local Plan 2015 – 2035 (adopted September 2021)
- Ref. 12-8: The North Lincolnshire Local Development Framework, including Core Strategy (adopted June 2011)
- Ref. 12-9: North Lincolnshire Local Transport Plan
- Ref. 12-10: National Highways - The Strategic Road Network and the Delivery of Sustainable Development (December 2022)
- Ref. 12-11: Planning Practice Guidance - Travel Plans, Transport Assessments and Statements
- Ref. 12-12: Manual for Streets (Department for Transport, 2007)
- Ref. 12-13: Design Manual for Roads and Bridges, Standards for Highways


## 12.9. Glossary

**Table 12-17: Glossary for Transport and Access**

| Terminology | Definition |
|---|---|
| AADT | Annual Average Daily Traffic - |

| Terminology | Definition |
|---|---|
| AIL | Abnormal Indivisible Load |
| ATC | Automatic Traffic Count |
| CDC | City of Doncaster Council |
| CTMP | Construction Traffic Management Plan |
| DfT | Department for Transport |
| DMRB | Design Manual for Roads and Bridges |
| EIA | Environmental Impact Assessment |
| ES | Environmental Statement |
| HGV | Heavy Goods Vehicle |
| IEMA | Institute of Environmental Management and Assessment |
| LDV | Light duty vehicle |
| Mph | Miles per hour |
| NGET | National Grid Electricity Transmission |
| NLC | North Lincolnshire Council |
| NMU | Non-Motorised User |
| NPPF | National Planning Policy Framework |
| NPS | National Policy Statement |

| Terminology | Definition |
|---|---|
| PIC | Personal Injury Collision |
| PRoW | Public Right of Way |
| SRN | Strategic Road Network |
| S278 | Section 278 |