

# **TRANSPORT STATEMENT**

# **ALDEBY SOLAR PARK**

DECEMBER 2020



Prepared By:

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## **APPENDIX A – FIGURES**



# 1 INTRODUCTION

## 1.1 Background

Infinis Solar Developments Ltd ('the Applicant') is proposing the installation of a ground mounted Solar Park with associated infrastructure ('the Development') on a closed landfill site off Common Road, Aldeby, Norfolk ('the Site').

This Transport Statement provides an overview of the Development in relation to traffic and will assess the anticipated impact of the Development on traffic and transportation resources within the local area.

## **1.2** Overview of the Development

The Development is located on a closed landfill site to the southeast of Aldeby, which occupies an area of approximately 27.9 hectares (ha). The Solar Park will occupy an area of approximately 8.5 ha and have a capacity of approximately 7 MW. Construction of the Development will involve the installation of ground mounted solar PV array and associated infrastructure including inverters, a switching compound as well as fencing, security cameras, cabling, storage containers and access tracks.

Access to the Site will take place via an existing access road off Common Road to the west, providing connectivity to Rectory Road and the A143 via Dun Cow Road. Vehicles will approach the site via the A12, A143 or A146 corridors. Traffic management procedures are required to be implemented on Dun Cow Road and Common Road in order to facilitate safe use of these routes for construction traffic.

Figure 1 included in Appendix A indicates the site location and route to the Site.

## 2 LEGISLATION, POLICY AND GUIDANCE

A brief summary of the legislation, policy and guidance considered during preparation of this Transport Statement is provided in Table 2.1.

Policy or Author	Title	Policy Description	Notes
Ministry of Housing, Communities and Local Government	National Planning Policy Framework (2019)	The NPPF (2019) is the over- arching national statement of the Government's approach to planning. The document contains several paragraphs outlining policies in relation to transport provision for new developments. Paragraph 109 states: "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."	



Policy or Author	Title	Policy Description	Notes					
Department for Transport (DfT)	Design Manual for Roads and Bridges (DMRB) – CD 123	Details the geometric design standard for at-grade priority and signal-controlled junctions.	Has been used within this report to appraise the standard of existing infrastructure, in particular the site entrance junction.					
Department for Transport (DfT)	Guidance on Transport Assessment (2007)	Sets out the methodology for preparation of a Transport Assessment.	Transport Assessments are normally associated with developments which are expected to cause a long term, or permanent, change in traffic flow or composition. It is therefore of limited relevance for this Development, where the principle traffic effects will be short term and associated with construction.					
Institute of Environmental Management and Assessment (IEMA, 1993)	Guidelines for the Environmental Assessment of Road Traffic	<ul> <li>Sets out guidelines for determining the appropriate and significance of traffic effects as a result of a proposed development. The following criteria should be applied for determining where further assessment is required:</li> <li>Routes where traffic is predicted to increase by 30% or more; and</li> <li>On highly sensitive routes where traffic is predicted to increase by 10% or more.</li> </ul>	This guidance is primarily intended to apply to Environmental Impact Assessments, however the quoted thresholds are useful for determining where traffic increase may be significant.					

## **3 EXISTING CONDITIONS**

## 3.1 Highway Infrastructure

Access to the Site will take place via an existing access road off Common Road to the west, providing connectivity to Rectory Road and the A143 via Dun Cow Road. Vehicles will approach the site via the A12, A143 or A146 corridors. This assessment will consider effects on routes between the site entrance and the nearest major road, which in this case is the A143. Effects on the A143 within the vicinity of the Site will also be considered.

The route to site is shown on Figure 1 included in Appendix A.

## 3.1.1 A143 – Yarmouth Road

The A143 is a major road and comprises a rural single-carriageway. The junction between the A143 and Beccles Road, which will be used by construction traffic, is an at-grade priority junction with ghost-island for right turning vehicles. The A143 is at national speed limit within the vicinity of this junction.



## 3.1.2 Hollow Way Hill/Beccles Road

Hollow Way Hill which continues directly into Beccles Road is a rural single-carriageway road under national speed limit initially and at 40mph on entering Aldeby. The road has a centreline marking along the length which will be used by construction traffic and would appear to be suitable for use by HGV traffic.

## 3.1.3 Rectory Road

Rectory Road follows on from Beccles Road and is subject to a 40-mph speed limit. It is categorised as a rural single-carriageway road and runs along the northern outskirt of Aldeby and connects to the unnamed access road for the Aldeby Landfill Site.

The junction connecting the access road to Rectory Road is a simple priority junction. Rectory Road is at national speed limit within the vicinity of this junction. As this junction has historically been utilised by HGV traffic it is expected to be suitable for use by the proposed construction traffic for the development.

## 3.1.4 Dun Cow Road

Dun Cow Road is a single track road which passes from Beccles Road in the north to Common Road in the south. It serves a number of residential properties and farms. The road is less than 5 m width on most of its length. Whilst there are a small number of passing places, these are infrequent and are not intervisible.

Swept path analysis was undertaken for this road which indicated that it is not possible for two opposing HGVs to pass each other, or for a car to pass an HGV. Therefore this route is not suitable for two-way construction traffic. Consequently traffic management procedures have been proposed in Section 5 of this Transport Statement.

#### 3.1.5 Common Road

Common Road is a single track road which passes from Beccles Road in the north to site entrance in the south. It serves a number of residential properties and farms. The road is less than 5 m width on most of its length. Whilst there are a small number of passing places, these are infrequent and are not intervisible.

Swept path analysis was undertaken for this road which indicated that it is not possible for two opposing HGVs to pass each other, or for a car to pass an HGV. Therefore this route is not suitable for two-way construction traffic. Consequently traffic management procedures have been proposed in Section 5 of this Transport Statement.

#### 3.2 Baseline Traffic Flow Data

No baseline traffic flow data was available for the sections of road which make up the route. Due to current restrictions brought about by COVID-19 it is believed that any data generated through the commissioning of traffic counts may be invalid and as such would be deemed unusable within the scope of this document.

#### 3.3 Road Traffic Collision Assessment

A study of all 'serious', 'fatal' and 'slight' reported road traffic collisions (RTCs) within the last five years between the Site and the A143 was undertaken<sup>1</sup>. Figure 2 included in Appendix A indicates the location of each identified RTC.

Collisions are categorised according to the severity of injuries sustained by those involved. 'Serious' injuries are those which result in hospitalisation or death more than 30 days after the incident. 'Fatal' results in the death of one or more persons at the scene of the collision

<sup>&</sup>lt;sup>1</sup> Study was undertaken using data compiled from crashmap.co.uk [Accessed 15/08/20]



or within 30 days of the incident. 'Slight' are those which are reported but do not meet any of the above criteria.

One 'serious' and one 'fatal' RTC were recorded in total within this study area and no 'slight' RTCs were recorded. Both RTCs were located on Beccles Road, between the A143 and Aldeby.

No HGVs were involved in either collision. No 'trends' or hotspots have been noted which would otherwise indicate the road to be unsafe. As such it is determined that the road network along the route is working as intended and does not pose any significant safety concerns.

## 4 THE PROPOSED DEVELOPMENT

#### 4.1 Construction Traffic Composition

Development construction traffic will primarily be associated with the importation of construction materials including solar panels, support structures, electrical equipment and other construction materials. It is expected that the majority of these materials will be transported to the Site by HGVs.

Other vehicles associated with construction of the Development can be expected from construction workers and other site personnel accessing the Site.

#### 4.2 Construction Vehicle Routing

All construction vehicles approaching the site will be directed to use the approved approach route to site. The approved route is indicated on Figure 1 included in Appendix A and is listed below:

- Exit A143 onto Hollow Way Hill;
- Follow Hollow Way Hill for approx. 0.5 miles, continuing onto Beccles Road;
- Follow along Beccles Road for approximately 1.2 miles, continuing onto Rectory Road north of Aldeby;
- Continue on Rectory road for 0.2 miles;
- Turn right onto Common Road; and
- Continue along Common Road for approx. 1 mile, turning right at the Dun Cow Road Junction before reaching Site entrance.

All construction vehicles departing the Site will use Common Road before continuing straight onto Dun Cow Road towards Rectory Road

#### 4.3 Construction Traffic Volume

The Development is expected to be constructed over a 4-month period. Approximately 7,458 one-way (either to or from the site) vehicle movements are expected to occur during this period for staff, and to deliver construction materials and components. The following sub-sections detail assumptions made in estimating material quantities.

#### 4.3.1 Site Mobilisation and Demobilisation

At the commencement of the project plant, equipment and welfare facilities will be brought to the Site and the temporary construction compound will be formed. This is expected to require up to 15 HGV deliveries or 30 HGV movements at the commencement of the project.

Following construction, the site would be demobilised. This is expected to result in the same number of vehicle movements as during mobilisation.



## 4.3.2 Access Tracks

The access track will be formed from upgrading approximately 400m of existing on-site tracks. It has been assumed that upgrading works will be required to an equivalent of 10 percent of the existing track length. The volume of aggregate import has therefore been calculated on the basis of 40 m of track with a 5 m width and at a depth of 0.45m.

Therefore, 90m<sup>3</sup> of material is required to construct the access tracks. This will be imported to site via tipper lorry with an assumed volumetric capacity of 9m<sup>3</sup> which will result in 10 vehicle loads or 20 overall vehicle movements associated with this phase of works.

## 4.3.3 Switching Stations, Cabling and other Electrical Containers

Construction of the switching stations and other electrical containers will commence once the access tracks are complete. This will require materials, namely concrete, to be imported to form the foundations of the building structure, cabling, switchgear, battery containers and a general storage container.

Concrete requirements are assumed to be 4 wagons or 8 overall vehicle movements. DNO switchgear, battery containers and the general container will comprise 5 HGV deliveries or 10 overall vehicle loads. Cabling for the solar park will also be delivered and this is estimated to require 2 HGV deliveries or 4 vehicle movements.

## 4.3.4 Frames and Inverters

The solar array will be ground mounted, and each string of panels will be supported on a frame. Electrical inverters and other electrical equipment will be imported and installed with the panels. String or central inverter and transformer units will be employed within the Development. Therefore approximately 4 HGV loads will be required to deliver frames and inverters to the Development, resulting in 8 HGV movements over the duration of this element of works.

#### 4.3.5 Panels

Solar panels will be imported to site by HGV and this is assumed to be the maximum size 16.5m length HGV. Panels will be delivered and stockpiled on site prior to installation. It has been assumed that 12,000 individual panels are required and that 400 panels can be delivered per HGV load. Therefore 30 deliveries will be required for panels resulting in 60 vehicle movements.

#### 4.3.6 Staff

Staff levels are likely to vary through construction depending on the operations being undertaken. A conservative worst-case estimate of staff numbers has been made. During site mobilisation and initial enabling works (access track construction), it is assumed that an average of 20 construction personnel will be present on site, resulting in 40 vehicle movements per day.

During the peak phase of construction an average of 40 construction personnel will work at the Site. This would result in a maximum of 80 vehicle movements per day.

The above figures are conservative as car sharing is likely to reduce these.

#### 4.3.7 Fuel

Fuel for plant will be required on site regularly through construction, this is estimated to result in one HGV fuel tanker delivery per month or two vehicle movements per month.



## 4.3.8 Overall Delivery Programme

Table 4.1 shows and indicative construction programme and schedule of deliveries.

Activity	Month				
ACTIVITY	1	2	3	4	Total
Mobilisation	30				30
Access Track Upgrade	10	10			20
Switching station, Cabling and Misc. Electrical Components		22			22
Frames and Inverters		8			8
Panel Installation			50	10	60
Demobilisation				30	30
Staff	1,040	2,080	2,080	2,080	7,280
Fuel	2	2	2	2	8
Total	1,082	2,122	2,132	2,122	7,458
Average per Day*	42	82	82	82	

## Table 4.1 - Anticipated Construction Programme

\*ASSUMES 26-DAY WORKING MONTH

As indicated in Table 4.1 the peak week of construction is expected to occur in Month 3 where 2,132 one-way movements, which consists of 2,080 car movements and 52 HGV movements. Assuming a 26-day working month, this would equate to a maximum of 82 two-way movements per day which would consist of 80 car movements and 2 HGV movement on average.

#### 4.4 Effect on Highway Safety

One 'serious' and one 'fatal' RTC were recorded in total within this study area and no 'slight' RTCs were recorded. No 'trends' or hotspots have been noted which would otherwise indicate the road to be unsafe. Therefore, no effect on highway safety is anticipated.

The Site access junctions at both Rectory Road and Common Road are currently in use by HGV traffic associated with the landfill site. No RTCs were noted at either location which indicates that the junctions are operating safely. As such, no effect on highway safety is anticipated due to the temporary increase in traffic associated with the Development using these junctions.

#### 4.5 Operational Traffic

Vehicle movements to the site during the operation of the Development will comprise activities associated with inspection, monitoring and general site up-keep. It is anticipated that such visits will occur up to once per week on average and be via van or other similar sized vehicles.

Due to the very low numbers of vehicle movements anticipated during operation of the Development no significant impact on the road network is expected.

The Site is not intended to attract visitors for any reason, and therefore it is not anticipated to generate other types of trips.

The effect of operational traffic is therefore expected to be negligible.



## 5 TRAFFIC MANAGEMENT

A number of traffic management procedures will be implemented to ensure safe operation of routes within the vicinity of the Site.

Once appointed, the Principal Contractor will be responsible for implementing specific traffic management policies and procedures. The following sub-sections of this report will outline the general management procedures which will be implemented.

## 5.1 Management of Dun Cow Road and Common Road Approach Route

In order to prevent the risk of obstruction of these routes due to construction traffic it is proposed to implement a temporary one-way system. Additionally temporary traffic lights would be installed at the Dun Cow Road/Common Road junction in order to control access to the final section of Common Road towards the site entrance.

Final details of the traffic management procedures will be provided prior to the commencement of construction. These will be developed by the Principal Contractor or their appointed traffic management sub-contractor and would be agreed in consultation with Norfolk County Council Highways department prior to installation. It is anticipated that a number of temporary traffic regulation orders (TTROs) would be required in order to implement the proposed measures.

The following specific measures are provided as an outline of how the route could be managed, although it is anticipated that these will be refined and developed during the consultation process:

- Common Road to temporarily become one-way (southbound) from the Beccles Road Junction to Dun Cow Road Junction;
- Dun Cow Road to become temporarily one-way (northbound) from the Common Road junction to Rectory Road/Beccles Road;
- Temporary traffic lights to be located at the Dun Cow Road/Common Road/ Lily Lane Junction to control traffic on Common Road between this junction and the site entrance junction.

Figure 3 included in Appendix A indicates the layout of the proposed traffic management system as outlined above.

It is considered that the above measures if implemented would be sufficient to allow construction traffic to approach the site without the risk of road blockage.

Due to the extremely low number of vehicles associated with operation of the Development no traffic management procedures are proposed for the operational phase.

#### 5.2 Route to Site

Drivers of all delivery vehicles will be made aware of the approved route to the Site, and any restrictions. Drivers of HGVs and other vehicles will be made aware that only the approved route is to be used and that access from non-approved routes is prohibited.

#### 5.2.1 Temporary Warning Signage

All contractors will be monitored to ensure they follow the correct access route identified and that all routes are clearly signposted. Temporary warning signage and directional signage will be installed on the route to site in order to prompt delivery drivers to use the correct route to site, and to enforce the proposed traffic management procedures.

Pedestrian and road user safety will be enhanced via the installation of signage and the maintenance of sight lines. This will minimise any adverse impacts caused by construction traffic on the local road network associated with the Development.



# 6 CONCLUSION

Construction of the Development will generate 7,458 vehicle movements during the 4month construction period. It is expected that during the peak month of construction (month 3), 82 one-way vehicle movements to the Site will occur per day, which would consist of 80 car movements and 2 HGV movements on average.

A number of traffic management procedures have been proposed within this report which would ensure the safe operation of the approach route to site during construction. Determination of the final details of these traffic management measures will occur once the Principal Contractor has been appointed and can be secured via an appropriately worded condition of consent.

Operational traffic is expected to be minimal and would be conducted by smaller vehicles. The impact of this on the wider highway network is therefore expected to be negligible.



# **APPENDIX A – FIGURES**



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