



OAKLANDS FARM SOLAR PARK

Applicant: Oaklands Farm Solar Ltd

Environmental Statement

Appendix 10.1 – Outline Construction Traffic Management Plan

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Appendix 10.1: Outline Construction Traffic Management Plan

Final report

Prepared by LUC

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Appendix 10.1

Outline Construction Traffic Management Plan

Report setting out a package of measures to limit the traffic impact on the local highway network and its users during the construction period.

Oaklands Farm Solar Park

Oaklands Farm Solar Park

Outline Construction
Traffic Management Plan

December 2023



a company of Royal HaskoningDHV

Oaklands Farm Solar Park Outline Construction Traffic Management Plan

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1. Introduction

- 1.1 Integrated Transport Planning (ITP) has been commissioned by Oaklands Farm Solar Park (the Applicant) to prepare an Outline Construction Traffic Management Plan (Outline CTMP) to support the Proposed Development of a Solar Park, also referred to as Oaklands Farm Solar Park, on land west of Rosliston, and east of Walton on Trent (the Site).
- 1.2 Planning permission is being sought for the construction and operation of a Solar Park that comprises the construction and operation of a solar photovoltaic (PV) electricity generating facility with battery energy storage system (BESS) and connection to the grid. The Proposed Development will include associated infrastructure such as a control house, substation, Site access points, internal access tracks, landscaping and biodiversity enhancements, and other ancillary infrastructure.
- 1.3 The Proposed Development involves three main phases, namely, construction, operation and decommissioning. Each phase will have different characteristics and hence will have different transport and access implications.
- 1.4 This Outline CTMP has been prepared to set out the methods by which materials, equipment and Site workers will arrive at the Site and present the practical traffic management measures that will be implemented to mitigate the effects of construction traffic on the local highway network during the construction phase. Measures are based on logistics practices from similar Solar Park projects and location specific requirements.

Purpose and Objectives

- 1.5 This Outline CTMP is provided to accompany the Environmental Statement (ES) in support of the Development Consent Order (DCO) application. If the DCO application is approved by the Secretary of State this Outline CTMP would be a certified document referred to in the DCO and subject to approval by the local planning authority, South Derbyshire District Council. This document should be read in conjunction with **ES Chapter 10: Transport and Access**.
- 1.6 The purpose of this Outline CTMP is to ensure that any impact on existing users of the local highway network or those located close to it is limited and temporary given the nature of solar PV construction. This Outline CTMP provides a set of measures to be implemented under a final CTMP which will provide mitigation for the traffic generated during the construction of the Proposed Development.

- 1.7 The objectives of this Outline CTMP are detailed below and have helped to inform the suite of measures proposed in **Chapter 5: Mitigation Measures** of this Outline CTMP:
- 1) Ensure that the movements of people and materials are achieved in a safe, efficient, timely and sustainable manner;
 - 2) Restrict freight and construction traffic to outside of local highway network peak periods to reduce the impact on the highway network and its users during busy periods;
 - 3) Minimise construction trips where possible and limit the impacts on the natural and built environment by working with local suppliers and logistic companies; and
 - 4) Ensure the continued monitoring, review and subsequent improvement of the CTMP and mitigation measures contained herein.

Consultation

- 1.8 As part of the preparation of the final CTMP, the following stakeholders will be consulted with regarding the traffic and transport elements of the Proposed Development:
- Derbyshire County Council (DCC)
 - Staffordshire County Council (SCC)
 - South Derbyshire District Council (SDDC)
 - National Highways (NH)
 - Local Parish Councils

Report Structure

- 1.9 Following this introduction, the remainder of this document is structured across the following chapters:
- **Chapter 2** – Proposed Development
 - **Chapter 3** – Access and Routing
 - **Chapter 4** – Signage Strategy and Core Working Hours
 - **Chapter 5** - Mitigation Measures
 - **Chapter 6** – Management Structure

2. Proposed Development

- 2.1 This section of the Outline CTMP provides an overview of the Proposed Development which is shown in ES **Figure 1.1: Site location**. The Proposed Development is summarised below.
- 2.2 The proposals involve the transportation, construction and operation of a Solar Park plus energy storage connected to the national electricity network by a new underground cable. The Proposed Development will be a National Strategic Infrastructure Project (NSIP) as it is anticipated at present that the solar panels will generate a peak 138 “peak” megawatts (MW) (direct current (DC)) solar power output, and 37.5MW (duration to be determined). The operational life of the Proposed Development is 40 years.
- 2.3 Solar Park construction is typically of short duration with fixed deliveries that can be phased based on sequencing of activity. Most materials come from regular suppliers of projects in rural and difficult to access locations, including C road access through small villages and hamlets.
- 2.4 The Site consists of two parcels of land. To the north is Park Farm which will house the cabling for grid connection at Drakelow power station, as well as the Temporary Construction Haul Road from Walton Road, and delivery compound. To the south, the Developable Area of the Site is situated within the Oaklands Land parcel which incorporates the majority of the physical Solar Park infrastructure.

Construction programme

- 2.5 Subject to any unforeseen constraints following the final submission of the EIA, development construction is anticipated to last up to 16 months. The indicative start date for construction is likely to be in late 2026, dependent on when the DCO and other necessary consents are granted.
- 2.6 The anticipated construction activities are set out below. Further detail on the phasing of the work is set out in ES **Chapter 4: Project Description**:
- Site preparation and civils works:
 - Construction of site entrances.
 - Establishment of construction compounds, which include Site offices/welfare area and parking.

- Upgrading, modification or improvement of highways where required for Site construction.
- Preparation of land for construction, including localised Site levelling (where required) and vegetation clearance.
- Import of construction materials, plant and equipment to Site.
- Establishment of the construction area fence where required for construction works to progress.
- Construction of the internal access roads.
- Marking out the location of the operational infrastructure.
- Installation of Site drainage.
- BESS Construction:
 - Installation of electric cabling.
 - Construction of foundations.
 - Import of components to Site.
 - Installation of batteries, auxiliary transformer, and PCS units.
 - Installation of perimeter fencing, gates and CCTV.
 - Installation of water storage tanks and associated fire-fighting infrastructure.
- Onsite Substation, compound and welfare facilities:
 - Installation of electric cabling.
 - Construction of foundations.
 - Import of components to Site.
 - Installation of transformers, harmonic filter, statcoms, control building, welfare building, and storage containers.
 - Installation of perimeter fencing, gates and CCTV.
 - Installation of water storage tank, deluge system and associated fire-fighting equipment.
- Installation of solar panels:
 - Import of components to Site.
 - Piling and erection of PV module mounting structures, using mobile piling rigs to install metal piles up to 2m in depth.

- Mounting of modules to the mounting structure using hand-held power tools.
- Trenching and installation of electric cabling.
- Installation of string inverters and transformer units.
- Installation of perimeter fencing, gates and CCTV.

Vehicle Classification

- 2.7 Several vehicle types will be used during the construction phase of the Proposed Development. **Table 2-1** highlights those vehicles expected to be used during the construction phase. The final list of vehicles will be confirmed within the final CTMP, prior to construction.

Table 2-1: Typical construction vehicle classification

Light vehicles (<7.5te)	Heavy vehicles (>7.5te)
Car	40 tonne truck
Van (under 7.5t)	Flat bed
4x4 transit	Crane
Minibuses	Excavator
4x4 vehicle	Bobcat Tracked loader
	Telehandler
	Pilling machines
	Tractor and trailer
	Waste collection

Light Vehicles

- 2.8 It is anticipated that a proportion of construction workers and visitors to the Site will arrive by cars and small vans with parking for these provided within the compound areas of the Site.
- 2.9 There will be a proportion of the construction staff that will stay in accommodation local to the Site (likely within Burton-on-Trent) and travel to the Site together either through car/van sharing and/or minibus.

Heavy Vehicles

- 2.10 Typically, Heavy vehicle movements will comprise those associated with the delivery of building materials and plant/equipment.
- 2.11 It is proposed that all excavated material generated by construction will be used within the Site for track construction, landscaping and natural drainage as required to limit the number of off-Site vehicle movements which would otherwise be required.

Abnormal Indivisible Loads (AIL)

- 2.12 The Proposed Development will require up to two Abnormal Indivisible Load (AIL) to transport transformer Substation units to the Site.
- 2.13 The Road Vehicles (Authorisation of Special Types) General Order 2003 sets out the categories of AILs with regard to weight, width and length. Guidance requires that arrangements are made to implement temporary traffic management and/or management of the timing of these movements so as to have as little impact as possible on the local highway network.
- 2.14 All AILs delivered to the Site will be done so via the Strategic Road Network (SRN) and Major Road Network (MRN) and then along the most suitable local highway route with low traffic, maximal highway width and minimal physical restrictions. An assessment of the route from the SRN and MRN to the Site has been undertaken by ITP and is presented within **Chapter 3**.

Construction Trip Generation

- 2.15 The estimated volume and type of vehicles that would be generated throughout the construction phase of development has been informed by the Applicant's construction programme, which is based on their extensive experience of delivering similar developments throughout the country.
- 2.16 The construction programme with key activities broken down by month, including the number of vehicles on Site, is presented in ES **Appendix 10.6: Construction Movements and Resource Plan**, and the main body of text, of the accompanying ES **Chapter 10: Transport and Access**.
- 2.17 From the data, the highest peak daily construction vehicle movements across the construction phase will be during month four with 100 two-way movements per day, whilst the average daily construction vehicle movements across the construction phase will be 81 two-way movements per day, broken down into 67 light vehicle movements

and 14 heavy vehicle movements. **The average two-way construction vehicle movements (81) have been used to assess the construction impact on the background traffic on the local highway network.**

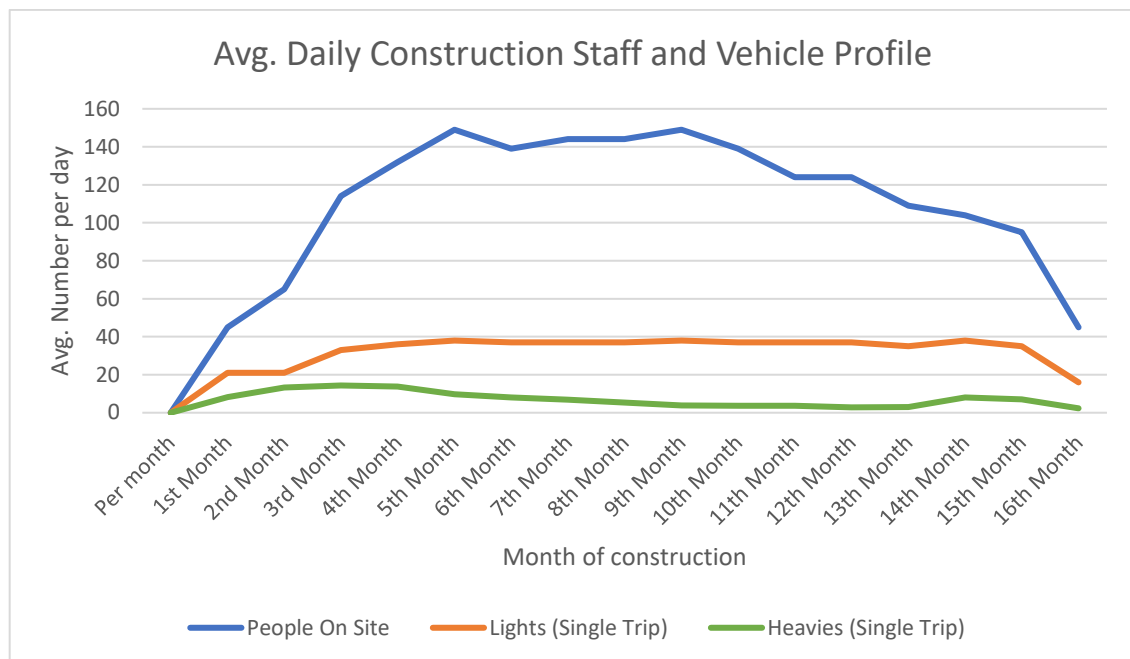
2.18 The onsite activities occurring during peak Heavy vehicle movements include:

- Onsite drainage
- Import of bund material
- Bund construction
- Solar array construction
- Compound roads
- Import of material for construction concrete; and
- Waste removal.

2.19 To ensure a robust prediction of the number of construction vehicles, it has been assumed that all vehicles arrive loaded and depart empty as all material generated during construction will be re-used onsite.

2.20 A graph showing the profile of the average daily expected construction traffic during the 16-month construction phase is included in **Figure 2-1**. The full raw data set is provided in **Appendix 10.6 Construction Movements and Resource Plan** of the ES.

Figure 2-1: Construction vehicle profile



- 2.21 An average of 14 two-way heavy vehicle movements (7 vehicles) and 67 two-way light vehicle movements (33 vehicles **total to avoid rounding error**) will be generated per day throughout the construction phase.
- 2.22 Heavy vehicle movements are higher at the beginning of the construction phase due to the intensity of activities in preparing and setting the foundations of the Site and naturally reduces across the 16-month period. Light vehicles generally remain constant through the construction phase.
- 2.23 At its peak, it is anticipated that 149 construction staff will be based onsite during month five and nine.
- 2.24 The full assessment of the construction traffic impact on the local highway network during the construction phase is detailed in full within the ES **Chapter 10: Transport and Access**.

3. Access and Routing

- 3.1 Access to the site will be gained via the local highway network. The majority of a construction vehicles journey to the Site will take place on the SRN and MRN. It is likely that the majority of construction staff will stay in accommodation local to the Site during the construction phase and therefore they will travel less distance on these roads.
- 3.2 The local roads used once construction vehicles leave the SRN and MRN within the construction vehicle routing strategy receive a lower level of traffic in comparison to the larger trunk roads. They also provide the most direct route to the Site from the SRN and MRN and therefore will limit the time that construction vehicles spend on the local highway.

Available Points of Access

Northern Access

- 3.3 Temporary construction access is proposed via a priority bell mouth junction, from Walton Road east into Park Farm for Heavy and Light vehicle access.
- 3.4 A delivery Compound for deliveries of materials and equipment will be situated adjacent to the farm track, within the boundary of the Site, to allow for unloading and for vehicles to turn within.
- 3.5 Once deliveries have been made, Heavy vehicles will be able to exit to the west using the existing farm access track connected to the main delivery Compound This will be widened at the junction with Walton Road to allow for the infrequent movement of farm vehicles should they occur when a Heavy vehicle is leaving the Site.
- 3.6 Further details are provided in ES **Chapter 4: Project Description**.

Southern Access

- 3.7 During construction, Lights vehicles can enter the Site via the upgraded field access from Coton Road and an existing 475m farm track heading north (referred to as the 'Southern Construction Road') linking to the Temporary Construction Haul Road. This will also facilitate access to the Onsite 132kV Substation by ALL.

Emergency Access

- 3.8 All access points across the Site will be suitable to be used as an emergency access for the emergency services during the construction phase. An appropriate landing location

for air ambulances will be located should this be required. This will be detailed further as part of the Emergency Management and Action Plan prior to construction.

Undergrounding of Grid Connection

- 3.9 A new permanent access will be created into National Grid's Drakelow Substation to facilitate the construction and future infrequent maintenance of the underground cable and grid connection. The access will be situated to the west of the former Drakelow Power Station access.
- 3.10 In line with the construction schedule, impacts on the local highway network associated with the grid connection will not occur until the latter stages of the construction phase as cabling works will begin within the Site before heading north towards the access with Walton Road and finally into the Drakelow Substation.

Temporary Construction Haul Road

- 3.11 A Temporary Construction Haul Road will extend south from the delivery Compound to the Developable Area within Oaklands Farm to enable materials and equipment to be transported internally across the Site without relying on the surrounding local highway network. Heavy vehicles will leave the Site directly once deliveries have been made, limiting the number of trips on the highway.
- 3.12 Temporary Construction Haul Road crossings will be provided across Coton Road (**Figure 4.8: Southern Crossroads Design**) and Rosliston Road (**Figure 4.7: Rosliston Road Crossroads Design**) to provide a continuous route from the north to the south of the Site and will both be designed in a crossroad format.
- 3.13 The internal Temporary Construction Haul Road allows vehicles to move freely within the Site rather than using the local highway network and has been designed to avoid local receptors. This approach will significantly reduce the number of interactions between existing communities and construction vehicles, limiting the environmental impact and risk to other road users which was a key concern raised at various points during the consultation process.

Traffic Management

- 3.14 During construction, the accesses from Walton Road will use temporary traffic lights and banksmen at the access to enable the safe movement of Heavy vehicles.

- 3.15 The Temporary Construction Haul Road crossing on Rosliston Road will use temporary traffic lights during the construction phase to manage the safe movement of vehicles across Rosliston Road.
- 3.16 The southern crossroads on Coton Road will operate as a priority junction with adequate visibility splays provided and necessary traffic management in place.
- 3.17 Throughout the project lifecycle, vegetation management will be undertaken to ensure that visibility splays at all junctions are maintained.
- 3.18 Additional traffic management is subject to discussion with DCC closer to the commencement of construction and will be secured through separate permit arrangements.

Public Right of Way (PRoW) and Permissive Paths

- 3.19 Cross Britain Way will remain open throughout the construction and operational periods, with temporary closures, signage, and/or banksmen employed to offer continued safe public access during construction with the presence of construction vehicles.
- 3.20 A new Permissive Footpath will be installed across the Site to offer a new safe walking link from Lads Grave in the South of the Site to Rosliston and Walton-on-Trent via the Cross Britain Way. This will remain open throughout the 40-year life of the project.

Routing Strategy and Assessment

- 3.21 To provide safe and responsible construction vehicle access to the site and to help achieve the objectives of this Outline CTMP, proposed construction vehicle routes have been assessed.
- 3.22 Following the submission of the PEIR chapter, additional consultation was undertaken with highways officers at DCC, SCC, NH, BayWa and ITP at a virtual workshop meeting on 16th August 2022. There was a need to re-evaluate potential construction vehicle routing to the Site as a result of the introduction of an 18-tonne weight restriction on the Chetwynd Bridge – the original proposed construction vehicle routing for all Heavy vehicles to access the site. Subsequently, DCC have confirmed that this will be further reduced to 7.5 tonnes.
- 3.23 Given the removal of solar panels from Park Farm, and the restrictions that would be placed on the Chetwynd Bridge, the proposed construction vehicle routing was

reconsidered to ensure that it would be reflective of local highway conditions at the time of construction.

- 3.24 Alternative construction vehicle routes were assessed to provide reassurance to the local highway authorities that appropriate routes could be used that would limit any impact on sensitive receptors. The routes were assessed based on their ability to cater for construction vehicles where highway constraints were minimal and the impact on local communities could be limited.
- 3.25 The proposed alternative construction vehicle routes were presented to SCC, DCC and NH on 16/08/2022 to discuss their suitability and whether any further routes could be considered. **It was confirmed that the routes presented were suitable, and multiple scenarios to disperse the impact of construction vehicle movements across the local highway network would be supported.** This was further supported as part of an additional meeting undertaken on 13/06/2023 which discussed the suitability of the proposed AIL routing and the process needed to be undertaken with DCC and other local stakeholders prior to it taking place.

Route Definition and Suitability

- 3.26 For route selection, several 'origins' were defined on the surrounding SRN, maintained and operated by NH, and were considered as the most appropriate origins for the long-distance transfer of construction materials.
- 3.27 The assessment to define the construction vehicle routing took into consideration the level of traffic using the route, limitations on other potential routes, and suitable width for large vehicles to pass with oncoming traffic safely. A review of potential sensitive receptors was also undertaken to ensure construction vehicles would have as minimal impact on its neighbours as possible.
- 3.28 The assessed origins are outlined below and presented in **Figure 10.1** of the Transport and Access chapter of the ES.
- A38 Alrewas
 - A38 Barton Turn
 - A38 Branston Interchange
 - M42 Junction 11
 - A5 Ventura Park
- 3.29 The assessment considered multiple alternative origins and routing to help dilute the impact of construction vehicles rather than assuming that all vehicles will originate

from the A38 at Alrewas to the Oaklands land parcel as it was in the PEIR, with the exception of the AIL.

- 3.30 Combining potential origins with the potential for alternative Site access options, results in several potential construction vehicle routes, as summarised in **Table 3-1**.

Table 3-1: Construction Route Origins

		Site access		
		South	North (via cable route)	North (via Rosliston Rd)
Origin	A38 Alrewas	Route 1	-	-
	A38 Barton Turn	Route 2	Route 3	Route 4
	A38 Branston Interchange	Route 5	Route 6	Route 7
	M42 junction 11	Route 8	-	-
	A5 Ventura Park	Route 9	-	-

- 3.31 The route suitability assessment helped to formulate a hierarchy of potential scenarios which were ranked from preferred to the least preferred based on potential restrictions on each route. The top three scenarios have been presented within this Outline CTMP to demonstrate a preferred routing scenario to Oaklands and an alternative scenario if the preferred cannot be achieved. These scenarios are described below

- **Scenario 1 (Preferred):** The Walton on Trent Bypass is built prior to the construction phase commencing – all construction traffic uses the Bypass, Main Street and Walton Road. This is the preferred route but it is considered unlikely.
- **Scenario 2a (Likely):** Walton on Trent Bypass is not built prior to construction phase – all Heavy vehicles will route through Stapenhill via the A5189, Main Street and Rosliston Road. Light vehicles will be dispersed along four different routes, including the Chetwynd Bridge. This is the likely route to be used by construction vehicles given the uncertainty surrounding the delivery of the Bypass prior to the construction phase commencing.
- **Scenario 2b (Backup):** Walton on Trent Bypass is not built prior to construction phase – all Heavy vehicles will route through Coton in the Elms via Coalpit Lane, and all Light vehicles are dispersed along three different routes, including the Chetwynd Bridge and the Heavy vehicle route. This is considered a backup route in

the event that there are any road closures or obstructions on the Heavy vehicle route through Stapenhill. If this scenario was used it will likely only be for a limited period, reverting to Scenario 2a at the earliest opportunity.

3.32 The routes that the three scenarios use are defined below.

- Route 1: A513, Unnamed Road
- Route 3: Walton-on-Trent bypass, Main Street (Walton), Walton Road
- Route 6: A5121, A5189, Main Street (Stapenhill), Rosliston Road, Walton Road
- Route 8: A444, Gorse Lane, Grangewood Road, Unnamed Road, Coalpit Lane, Mill Street, Church Street
- Route 9: Riverdrive, Ankerdrive, A513, Comberford Road, A513, Unnamed Road

Scenario 1 (Preferred Construction Vehicle Routing)

3.33 If the Walton on Trent Bypass is constructed prior to the commencement of the construction phase in 2026, Scenario 1 will use Route 3 which provides the shortest route from the strategic road network to the Site, with the least potential to impact sensitive receptors and is therefore the 'Preferred' route.

3.34 Assurances from SCC indicated that the Bypass should be ready for use in advance of the construction phase commencement in 2026, however this has more recently been subject to further uncertainty with the withdrawal of funding and concerns regarding the impact on the flood plain.

Scenario 2a (Likely Construction Vehicle Routing)

3.35 Given the uncertainty surrounding the delivery of the Walton on Trent Bypass prior to the construction phase commencing, the likely routing strategy to the Site will be Scenario 2a, which is formed by a combination of routes. The routes used in this scenario are:

- Route 6: Heavy and Light vehicles
- Route 1: Light vehicles
- Route 8: Light vehicles
- Route 9: Light vehicles

Scenario 2b (Backup Construction Vehicle Routing)

3.36 The backup construction vehicle routing strategy is only provided in the event that there is major disruption or blockage on Route 6. Since this is the only proposed route for Heavy vehicles under Scenario 2a, it is necessary to provide a backup option to

avoid the Proposed Development becoming unimplementable. By including it in assessment, it ensures the effects of such a situation can be presented transparently and fully understood. The routes used in this scenario are:

- Route 1: Light vehicles
- Route 8: Heavy and Light vehicles
- Route 9: Light vehicles

3.37 It is expected that the use of Scenario 2b would only last so long as Scenario 2a is unavailable for use, with construction vehicle routing reverting at the earliest opportunity.

3.38 The potential level of construction traffic that could use each route within each scenario based on the average daily two-way construction movements are presented in **Table 3-2**.

Table 3-2: Construction Vehicle Routing Dispersal

Scenario	Route	Access point	Restrictions		Vehicle Type	Trip Generation Average Day	
			Height	Weight			
1	3	North	No	No	All Vehicles	81	
2a	6	North	No	No	Heavies	14	
	1	South	No	No	Lights	17	
	6	North	No	No	Lights	17	
	8	South	No	No	Lights	17	
	9	South	4m	No	Lights	17	
	Total (to avoid rounding error)						81
	1	South	No	No	Lights	22	
	8	South	No	No	Heavies	14	
	8	South	No	No	Lights	22	
	9	South	4m	No	Lights	22	
	Total (to avoid rounding error)						81

Abnormal Indivisible Load

3.39 Up to two AIL movements are expected to deliver the prefabricated transformers to the Onsite 132kV Substation. Each movement consists of two trips; the first being

laden with the transformer on the way to the site and the second unladen as the vehicle returns.

- 3.40 A review of the surrounding highway network has determined that Route 8, beginning at M42 Junction 11, is the most appropriate route due to various physical restrictions, such as height and weight limits, on other routes.
- 3.41 The AIL movements will be police escorted in a rolling roadblock management format as the load will require the full width of the carriageway on narrow lanes and will travel at a slow speed. Authorisation for these movement to take place are subject to separate notification process coordinated by NH.
- 3.42 Swept-path assessment based on Ordnance Survey mapping has confirmed that the vehicle will remain within the extents of the local highway network. Surface protection, culvert reinforcement and temporary removal of street furniture will be required at locations identified in **ES Appendix 10.7: Indicative Abnormal Load Swept Path Analysis** and on verges at turning bends where the AIL vehicle will have to overrun.
- 3.43 In Scenario 1, AILs may be able to use Route 1, however given that limited detail is known regarding the design of the Walton on Trent Bypass, it has been assumed that AIL movements will utilise Route 8 in every scenario.

Identified Constraints

- 3.44 **Table 3-3** sets out the identified highways constrains along the proposed construction vehicle routes and the proposed mitigation to be implemented. The mitigation measures are then discussed in greater detail later in this document. Detailed sensitive receptors are included within **ES Chapter 10: Transport and Access**.

Table 3-3: Identified Constraints

Issue/Constraint	Mitigated at Stage	Mitigation
Sensitive, built-up areas (Rosliston and Walton-on-Trent) to be avoided as much as possible by temporary construction traffic due to congestion, reduction of safety and air and noise pollution.	Construction vehicle routing strategy	Construction routing to be approved at DCO stage.
Avoidance, if possible of urban areas.	Construction vehicle routing strategy	Construction routing to be approved at DCO stage.
Height and weight restrictions.	Construction vehicle routing strategy	Construction routing to be approved at DCO stage.
Assess route width constraints.	Throughout all stages	Contractor briefing, speed restrictions and signage.
Impacts on pedestrians, cyclists, equestrians and other non-motorised users.	Throughout all stages	Contractor briefing, speed restrictions and signage.
Highway surface condition	Throughout all stages	Detailed survey and remedial works strategy agreed with SCC and DCC.
Impact on event traffic at National Arboretum and Catton Hall.	Throughout all stages	Consultation with NA and CH when events are planned. Construction vehicle access to be limited on these days and/or blackout days will be introduced.

4. Signing Strategy and Core Working Hours

Access Route and Point Signing

- 4.1 Temporary signage will be erected along construction vehicle routes on the local road network to provide access and routing information. These will be placed to ensure that construction vehicles and staff are able to travel directly to Site from the wider SRN and MRN. Locations of the temporary signage will be agreed with DCC and SCC ahead of installation.
- 4.2 Temporary signage will also be provided at key junctions within the vicinity of the Site providing warning to other road users of the likely presence of construction vehicles. For the ease of movement for construction workers, signage will be colour coded to match routes designated for Light and Heavy vehicles. To ensure that Heavy vehicles stick to the prescribed routes, 'No HGV' signage will be installed at locations where they may be able to leave the network and take different routes.
- 4.3 Where possible, construction signage will be erected onto existing signage and street furniture to limit the need for excessive signage that may cause confusion for local road users and cause a nuisance to local residents. There will also be potential to work with local stakeholders and institutions, such as Catton Hall and National Memorial Arboretum, to support each other through a combined signage strategy.

Internal Road Signing

- 4.4 Similar to the above, temporary signage will be erected along the internal track layout within the Site where necessary. The signage will provide drivers with information on distances to key areas within the Site, as well as potential vehicle conflict areas (cross over points).
- 4.5 Signage will provide warnings to drivers that they are emerging onto the local highway network and need to be aware of other vehicles that may not expect them. At the construction accesses from Walton Road and Rosliston Road, fixed point signage will be erected to notify local highway users and construction workers of the transition point.

Working Hours

- 4.6 Core working hours are proposed to be between 07:00 until 19:00, Monday to Friday and 07:00 until 13:00 on a Saturday (unless in exceptional circumstances where need arises to protect plant, personnel or the environment).
- 4.7 To maximise productivity within the core working hours, contractors would require a period of up to one hour before and up to one hour after core working hours for start-up and closedown activities. This would include but not be limited to, movement to place of work, maintenance and general preparation works. This would not include operation of plant or machinery likely to cause a disturbance. These periods would not be considered an extension of core working hours.
- 4.8 As such, it is likely that staff would arrive at the Site before 07:00 and leave after 19:00 Monday to Friday and before 07:00 and after 13:00 on a Saturday. As a result, construction traffic traveling to the Site will not impact the traditional local highway network peak periods during the morning and evening periods.

5. Mitigation Measures

- 5.1 The Applicant will implement a number of embedded construction traffic mitigation measures in order to limit the impact on the local highway network.

Prescribed Construction Vehicle Routes

- 5.2 Only those construction vehicle routes and internal track layout which has been agreed with DCC and SCC will be used throughout the entire construction phase. This applies to both Heavy and Light vehicles.

Heavy Vehicle Movement Restrictions

- 5.3 Construction traffic movements will be scheduled to occur outside of the traditional local highway network peak periods. The agreed core working hours will inherently enforce this with additional restrictions being placed on Heavy vehicle movements which will not be permitted on the local highway network at the following times:
- On Sundays or on public holidays;
 - Between the hours of 19:00 and 07:00 (Monday to Friday); and
 - Between 13:00 on Saturday and 07:00 on Monday.
- 5.4 The above restrictions do not apply to the movement of Heavy vehicles on the SRN or in relation to ALLs, which will be subject to a separate agreement and licencing process.
- 5.5 In addition to the above, it is proposed that the Applicant will not accept Heavy vehicle deliveries to Site or let Heavy vehicles leave the Site between the hours of 08:30 to 09:30 and 15:00 to 16:00 to avoid the start and finish times of local schools and the associated drop off and pick up times. This will be communicated with contractors accordingly.

Heavy Vehicle Emissions

- 5.6 All vehicles used in the construction of the Proposed Development are to be compliant with Heavy vehicle CO₂ emission performance standards regulation.

Timings of Vehicle Movements

- 5.7 Vehicle movements, including staff transport and the delivery of goods and materials to Site, will occur between the hours of 06:00 and 20:00 Monday to Friday (excluding the peak hour traffic movement restrictions) and 06:00 and 14:00 on a Saturday.

- 5.8 Due to the proposed vehicle movement timing restrictions being limited around traditional local highway network peak traffic periods, most Heavy vehicle movements are expected to occur between 09:30 and 15:00.
- 5.9 A booking system (Delivery Management System) will be used to ensure deliveries to the Site will be spread across the day where possible. This will minimise the impact of Heavy vehicle traffic during the traditional local highway network peak periods. This booking schedule will also form part of, and inform, the monitoring process of the CTMP.
- 5.10 As part of the delivery management process, measures will be introduced to ensure that inbound / outbound Heavy vehicles associated with the construction of the Solar Park will not meet on the local road network.
- 5.11 It is proposed that this is managed by the following measures:
- Predicting journey times from the point of origin (and other points of origin) to the Site. This will be through vehicle GPS monitoring and using real-time traffic information and journey planning tools.
 - Having set times for vehicle arrivals and departures (e.g. This could be achieved by timing deliveries to arrive within the first 45 minutes of an hour and releasing vehicles in the last 15 minutes).
 - Not permitting vehicles to leave the SRN (including the A38 and A444) or suitable holding locations if they know they are going to miss a delivery window).
- 5.12 There are facilities along the A50, A38 and A444 where Heavy vehicles can wait until the local road network timing restriction has ended.
- 5.13 On days where nationally significant events are held at the National Arboretum such as memorial days and anniversaries, as well as large regional events at Catton Hall, communications with the relevant persons will be undertaken to ascertain the likely level of traffic associated with each event. Adjustment to timing of vehicle movements will be made so as to not disrupt the event traffic. Depending on the scale and duration of the event and the traffic generated, 'blackout days' will be considered whereby all construction traffic to the Site will halt. Any adjustments to the timing of vehicle movements will be subject to consultation with the National Arboretum, Catton Hall, SCC and DCC.

Presence of Traffic Management Marshals

- 5.14 Vehicles will be called forward to the site using telephone or radio, with qualified personnel and guards positioned at the following locations along the construction delivery routes:
- Access points directly off the local highway network onto the Temporary Construction Haul Road; and
 - Site access.
- 5.15 These personnel will speed up the calling forward of vehicles to the Site, guide construction traffic where required, record arrivals and departures of vehicles against the deliveries schedule and report any observed incidents or highway conditions that may impact on construction vehicle access. Presence of guards will also stop any non-permitted vehicles into the Site and remove any potential for parked or obstructive vehicles that could impact on the movement on construction vehicles or local highway road safety.
- 5.16 Heavy vehicles associated with the Proposed Development will have markers and/or permits placed on them to distinguish them from general Heavy vehicles on the local highway network. This measure will distinguish those Heavy vehicles accessing the Site across the 7.5t weight restriction on the bridge at Rosliston which can only be used for Heavy vehicles seeking access to local farms and construction sites. The measure should discourage general Heavy vehicle traffic on the local highway network from 'piggy backing' off of Heavy vehicles accessing the Proposed Development.

Highway Condition Surveys

- 5.17 Highway condition surveys will be undertaken both before and after construction and will be subject to agreement with both SCC and DCC.
- 5.18 The surveys will cover certain sections of the proposed construction traffic routes which have been identified as being vulnerable to potential degradation from Heavy vehicles. The scope of the road condition surveys includes surveying the main carriageway surface, footways, verges and adjoining access points.
- 5.19 The surveys will be undertaken by a specialist third party logistics contractor that will undertake a high-definition visual survey of the proposed construction traffic routes from the SRN and MRN to the Site.
- 5.20 To minimise the potential for noise and vibration from a poor road surface, further road condition surveys will be undertaken prior to the AIL movement taking place at

points within proximity to residential properties and sensitive receptors, such as within Coton in the Elms.

- 5.21 Further to remedial works prior to construction, it is proposed that the condition of the construction routes from the SRN and MRN are monitored throughout the construction phase. Remedial works will be undertaken as required to ensure the existing highway conditions are not exacerbated by construction vehicles.
- 5.22 Once construction has been completed, a final road condition survey will be undertaken. Any damage to the road surface, footways, verges or access, attributable to the Proposed Development will be rectified to a standard at least equal to that observed prior to the route being used by the Proposed Development construction traffic.

Temporary Traffic Management (TTM) Procedures

- 5.23 TTM will be used where required to enhance safety conditions on the local road network and mitigate potential impacts of the construction.
- 5.24 The access from Walton Road and the Temporary Construction Haul Road crossing on Rosliston Road will be suitably managed through the use of temporary traffic management, including traffic light control on Walton Road and verge vegetation management to maintain visibility splays.
- 5.25 Consultation with Derbyshire Development Control Officers on 02/02/2023 confirmed that the proposed Site access arrangements and management strategy was suitable.
- 5.26 The strategy outlined above ensures that vehicles will be able to move freely within the Site and limit the need to re-enter the local highway network. Once the construction phase is completed, the Haul Road will return back to its current agricultural use.
- 5.27 During the Operational phase, there will be access points dispersed around the Site to allow for vehicles to access different parts of the Site that may need maintenance.
- 5.28 All TMM measures and implementation plans will be agreed with both SCC and DCC following the granting of the DCO.

Delivery Management Systems (DMS)

- 5.29 Records will be kept of all deliveries. This will ensure the spacing of deliveries and allow the number of vehicles accessing/egressing the Site to be recorded. This could potentially be through group arrivals rather than stagnated to ensure that vehicles do not meet on the local highway network, particularly on narrower section of roads.

Information Packs and Communications

- 5.30 Information packs will be provided to all contractors which will form part of the contractual agreement between the contractors and CHSP. The information pack will contain the details of the following CTMP requirements:
- Risk Analysis Management Systems (RAMS) guidance;
 - Heavy vehicle restrictions;
 - Construction vehicle routes;
 - DMS;
 - Non-compliance guidance;
 - Complaints procedure;
 - CTMP protocols and indications required for all contractors including a Code of Good Practice;
 - Guidance on standard communication procedures between contractors and Site; and
 - CTMP contacts (emergency and non-emergency).

Abnormal Indivisible Loads

- 5.31 The movement of AIL is controlled by the Motor Vehicles General Order 2003 and subject to management and prior agreement with the Police and NH.
- 5.32 All AIL vehicles will be escorted by a pilot car and Police escort and be scheduled to travel during off-peak hours where possible to allow for the vehicle to manoeuvre safely. This will ensure the safety of other road users and result in minimal disruption. Additionally, suitable management of sensitive receptors along the route will be undertaken and agreed with DCC prior the movement taking place.
- 5.33 The local communities affected by the delivery of the AIL Coton in the Elms will be contacted prior to any movements. It is envisaged that this will include leaflet drops and publication in the local press advising of the AIL movements.

6. Management Structure

- 6.1 This section reviews the management structure that will oversee the final CTMP. It is important that a strong management structure is in place to ensure the Outline CTMP objectives are met, and that the continued monitoring and reviewing of the final CTMP is maintained.
- 6.2 A Traffic Management Group (TMG) and Transport Co-ordinator (TCO) will be appointed to achieve this. The TCO will be employed prior to commencement of works and will have the following transport-related responsibilities.
- Monitor the final CTMP;
 - Report to the TMG about mitigation and any remedial measures if required;
 - Update the final CTMP as required; and
 - Resolve issues and problems through liaison with relevant stakeholders.

Traffic Management Group

- 6.3 A TMG will be established prior to construction to be consulted on as part of the finalised CTMP. The TMG will include representatives from the Applicant, the TCO and the following organisations will be asked to provide representatives;
- National Highways;
 - Staffordshire County Council;
 - Derbyshire County Council; and,
 - South Derbyshire District Council.
- 6.4 The TMG will meet to discuss and review the traffic and transportation elements of the construction phase of the Proposed Development. The meetings will be scheduled every 6 months unless specific issues which need to be addressed are brought to the attention of the TCO.
- 6.5 The TMG will be consulted on the following areas:
- Implementation and effectiveness of mitigation measures;
 - Contractor obligations with regards to the CTMP; and
 - Suitable changes to the final CTMP based on the success of the mitigation measures seeking to enhance the efficiency and effectiveness of the final CTMP.

- 6.6 Discussion in the scheduled meetings will be aided by a monitoring report produced by the TCO, ensuring the objectives set out within this CTMP are being met.

Monitoring and Review

Monitoring Strategy

- 6.7 The TMG will be established and a TCO will be appointed prior to construction as part of the final CTMP, to oversee the implementation and monitoring of the final CTMP in line with the agreed requirements.
- 6.8 The contractors will undertake monitoring as necessary to ensure compliance with the requirements of this CTMP.

Review

- 6.9 The TMG will be consulted with during the monitoring and review of the final CTMP. These reviews are required to ensure that the final CTMP delivers on the commitments and achieves the goals agreed as set out in the document.

Compliance

- 6.10 The enforcement procedures with this CTMP are still to be finalised. However, it is anticipated that these mechanisms will include:
- Risk Assessment Management Service (RAMS) – this will include Site inductions for contractors, briefing on the obligations of CHSP standards, induction and adherence to risk assessment method statements, DMS briefing, driver inductions and compliance guidance.
 - Contractual conditions – to be employed as part of this CTMP methodology and will be built into the contractor’s contract.
 - Actions – to be employed if the commitments of this CTMP are breached.

Enforcement and Corrective Measures

- 6.11 This CTMP will form part of the contractual agreements between those contractors working at the Site and the Applicant.
- 6.12 The Applicant will ensure that appropriate measures are taken to ensure that contractor behaviour and performance is monitored. Where appropriate, corrective

measures will be implemented to resolve, address and enhance service performance which may be in breach of the standards within this CTMP.

Implementation of the CTMP

- 6.13 The Applicant is committed to continued dialogue with the relevant stakeholders, NH, SCC, DCC and SDDC to agree and finalise this CTMP up to and during construction of the Proposed Development.

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