Lime Down
Solar Park

Outline Construction Traffic Management Plan (Clean)

May 2026

Revision 2

Planning Inspectorate Reference: EN010168

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APFP Regulation 5(2)(q)

Schedule of Changes

Revision	Section Reference	Description of Changes	Reason for Revision
2	Throughout	Updated to confirm schedule of construction vehicle movements associated with deliveries.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Throughout	Updated to confirm that multiple Final CTMPs may be provided post -consent.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Throughout	Updated to clarify that the construction phase is anticipated to be two years.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Paragraph 1.2.1	Amended reference to updated threshold in the Planning Act 2008.	Updated for Deadline 1 of Examination to align with the latest generating threshold in the Planning Act 2008.
	Paragraph 1.2.14	Updated to confirm where the Outline LEMP is secured in the Draft DCO.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Paragraph 1.3.2	Updated to provide further detail on the Final CTMPs and a Final OTMP.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Table 1	Updated to include the 400 kV Substation within the indicative construction programme.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Paragraph 2.3.1 to 2.3.4	Updated to provide further detail in relation to detailed design and consultation with Wiltshire Council.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Table 4 and Paragraph 3.2.3	Updated to present further breakdown of HGV movement calculations for the construction phase.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Paragraph 4.3.2	Updated to present further information regarding proposed construction routes to Lime Down D (west and east) and Lime Down E.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Table 6 and Paragraph 5.2.7	Updated to provide breakdown of abnormal load movements	Updated for Deadline 1 of Examination in response to

Revision	Section Reference	Description of Changes	Reason for Revision
		for eastern and western construction routes to Lime Down D and updated delivery numbers for the Cable Route Corridor.	Wiltshire Council's Relevant Representation.
	Paragraph 5.4.2	Updated to clarify that temporary mitigation implemented for AIL movements will be removed following AIL movements.	Included for Deadline 1 of Examination following hearings.
	Section 6.3	Updated to include details of road widening works within the CNL.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Section 6.4	Updated to include traffic management measures proposed during major local events.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Section 6.6	Updated to include further vehicle movement measures.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Section 6.7	Updated to include further information on booking system.	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Section 6.12	Updated to clarify frequency of surveys and to include unmetalled roads as part of road condition surveys	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Section 6.13 and 6.14	Updated to provide further detail regarding engagement on issues along construction routes with community liaison group	Updated for Deadline 1 of Examination in response to Wiltshire Council's Relevant Representation.
	Figure 4.1	Figure added to show HGV construction routes to Solar PV Sites	Included for Deadline 1 of Examination following hearings
	Figure 4.2	Figure added to show HGV construction routes to Cable Route Corridor	Included for Deadline 1 of Examination following hearings
	Figure 5.1	Figure added to show AIL routes to Solar PV Sites	Included for Deadline 1 of Examination following hearings
	Figure 5.2	Figure added to show AIL routes to Cable Route Corridor	Included for Deadline 1 of Examination following hearings
	Table 8, Appendix D	Updated to provide breakdown of abnormal load movements	Updated for Deadline 1 of Examination in response to

Revision	Section Reference	Description of Changes	Reason for Revision
		for eastern and western construction routes to Lime Down D	Wiltshire Council's Relevant Representation.

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1 Introduction

1.1.1 This Outline Construction Traffic Management Plan (CTMP) has been prepared on behalf of Lime Down Solar Park Ltd (the 'Applicant') in relation to an application for a Development Consent Order (DCO) for the Lime Down Solar Park (hereafter referred to as the 'Scheme').

1.1.2 The Scheme is situated within the jurisdictions of Wiltshire Council and South Gloucestershire Council which are the relevant highway authorities.

1.2 The Scheme

1.2.1 The Scheme will comprise the construction, operation, maintenance, and decommissioning of a solar photovoltaic (PV) array electricity generating station and Energy Storage Facility with a total capacity exceeding 100 megawatts (MW), and export connection to the National Grid. The grid connection point will be at the National Grid substation at Melksham Substation.

1.2.2 The Order Limits are shown in **ES Volume 2, Figure 1-2: The Order Limits [EN010168/APP/6.2].**

1.2.1 A full overview of the Order Limits and the Scheme can be found in **ES Volume 1, Chapter 2: The Order Limits [EN010168/APP/6.1]** and **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1]**, respectively.

Solar PV Sites

1.2.2 The Solar PV Sites comprise a total area of approximately 749 ha. The area and National Grid Reference (NGR) for each individual Solar PV Site is as follows:

- Lime Down A comprises an area of approximately 94 ha and is centred on NGR ST 86281 84700;
- Lime Down B comprises an area of approximately 70 ha and is centred on NGR ST 88571 85010;
- Lime Down C comprises an area of approximately 241 ha and is centred on NGR ST 86198 83092;
- Lime Down D comprises an area of approximately 213 ha and is centred on NGR ST 89705 83780; and
- Lime Down E comprises an area of approximately 131 ha and is centred on NGR ST 92698 81906.

1.2.3 The landscape within and surrounding the Solar PV Sites comprises predominantly agricultural fields and rural villages and hamlets, including Sherston (approximately 300 m north of Lime Down A), Luckington

(approximately 830 m west of Lime Down C), Corston (approximately 480 m east of Lime Down D), Hullavington (approximately 700 m south of Lime Down D), and Rodbourne (approximately 150 m southeast of Lime Down E). The town of Malmesbury is located approximately 3 km northeast of Lime Down B.

1.2.4 The key equipment within the Solar PV Sites are:

- **Solar PV Panels** – to convert sunlight into electrical current;
- **Mounting Structures –** Solar PV Panels will be mounted on a metal assembly of PV Mounting Structures. This includes metal rails to directly support the PV Panels, which themselves are supported by larger metal frames which are fixed on top of metal piles;
- **Conversion Units –** The Conversion Units incorporate inverters, transformers and switchgear and are required to manage the electricity generated by the PV Panels; and
- **Electric Cabling –** Electrical cabling will be required as part of the Generating Stations to connect PV Panels to the Conversion Units**.**

Energy Storage Facility

1.2.5 An Energy Storage Facility (also referred to as BESS) will be located within Lime Down D.

1.2.6 The BESS is designed to provide peak generation and grid balancing services to the electricity grid by allowing excess electricity generated either from the solar PV panels, or imported from the electricity grid, to be stored in batteries and dispatched when required.

Substations

1.2.7 Substations will be provided at Lime Down A, C, D and E Solar PV Sites. The substations will consist of electrical infrastructure such as the transformers, switchgear and metering equipment required to facilitate the export of electricity from each respective Solar PV Site.

Grid Connection

1.2.8 The electricity generated by the Scheme will be exported to the National Grid substation at Melksham via Grid Connection Cables within the Cable Route Corridor. These connections will also facilitate the import of electricity to be stored within the energy storage facility at Lime Down D.

1.2.9 The Cable Route Corridor will be approximately 22km in length, and is directed across open countryside. It will require crossings of railways, watercourses, various utilities, Public Rights of Way (PRoW) and roads.

The Cable Route Corridor as indicated on the Order Limits is at least 50m in width in order to accommodate working areas, construction laydown areas, haul roads, open cut digging of trenches and horizontal directional drilling (HDD) where it may be required.

1.2.10 The final Cable Route Corridor is subject to an iterative design process and detail design. For assessment purposes, the placing of the cable anywhere within the Cable Route Corridor has been considered, including the avoidance of environmentally sensitive locations.

1.2.11 The construction of the Grid Connection Route includes the following elements:

- Construction of Haul Road and Laydown Areas;
- Open Cut Excavation;
- Construction of Joint Bays; and
- Cabling/Jointing.

1.2.12 The Cable Route Corridor will be built out in four sections over an 18 month period, with each section requiring a number of construction access points which will be in use simultaneously. It has been estimated that each section will be approximately 5.5km.

Permissive Paths

1.2.13 Permissive paths are incorporated into the Scheme design. The permissive paths will contribute to the wider network of footpaths and bridleways in the area and facilitate greater public access to the Countryside.

1.2.14 The design and implementation of the permissive paths is set out in **ES Volume 2, Figure 3-4: Landscape and Ecology Mitigation Plan [EN010168/APP/6.2]** and the **Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]** which will be secured by Requirement 7 in Schedule 2 of the **Draft DCO [EN010168/APP/3.1].**

1.2.15 The permissive paths are to remain open up to 365 days per year throughout the proposed 60-year operational lifetime of the Scheme.

Lime Down A

- Permissive path for pedestrians, equestrians and cyclists which connects Bridleway SHER16 and the public highway network at its western and eastern extents, respectively. The permissive path is approximately 0.4 km in length and runs in a southwest-northeast direction along the northern and western boundaries of Fields A3 and A4;

- Permissive path for pedestrians, equestrians and cyclists which connects Bridleway SHER16 and the public highway network at its southern and northern extents, respectively. The permissive path is approximately 1.1 km in length and runs in a north-south direction along the eastern and northern boundaries of Fields A6 and A9; and
- Permissive path for pedestrians, equestrians and cyclists which connects to Bridleway SHER14 and the public highway network at its northern and southern extents, respectively, as well as crossing Footpath SHER15 in Field A11. The permissive path is approximately 0.8 km in length and runs in a north-south direction along the western and northern boundaries of Fields A11 and A12.

Lime Down B

- Permissive path for pedestrians, equestrians and cyclists which connects the public highway network of the Fosse Way (with onward connection to Byways SHER37 and EGRE1 and Footpath SHER11) to the existing highway network of Honey Lane (with onward connection to Bridleway NORT11) at its western and eastern extents, respectively, as well as crossing Footpath NORT1 within Field B11. The permissive path is approximately 2.9 km in length and runs in an east-west direction along the boundaries of Fields B6, B7, B8, B9, B11 and B12.

Lime Down C

- Permissive path for pedestrians, equestrians and cyclists which connects the public highway near Alderton to Byway LUCK57 at its western and eastern extents, respectively. The permissive path is approximately 1.9 km in length and runs in an east-west direction along the northern boundaries of Fields C6, C7, C33, C31 and C36; and
- Permissive path for pedestrians, equestrians and cyclists which connects Footpath SHER18 and Byway SHER 35 to the public highway network at its eastern and western extents, respectively. The permissive path is approximately 1.1 km in length and runs in an east-west direction along the northern and eastern boundary of Field C22.

Lime Down D

- Permissive path for pedestrians which connects Footpath HULL1 to Footpath HULL2 at its eastern and western extents, respectively. The permissive path is approximately 0.4 km in length and runs in a southwest-northeast direction along the northern boundary of Field D4;

- Permissive path for pedestrians which connects Footpath HULL 2 to Footpath HULL6 at its eastern and western extents, respectively, as well as crossing Footpaths HULL4 and HULL5, and connecting to MALW50. The permissive path is approximately 1.3 km in length and runs in an east-west direction along the northern boundary of Fields D9 and D12; and
- Permissive path for pedestrians which connects to a northern and southern section of Footpath HULL6. The permissive path is approximately 0.4 km in length and runs in a north-south direction along the western boundary of Field D13.

Lime Down E

- Permissive path for pedestrians, equestrians and cyclists which connects Bridleway MALW59 and Bridleway MALW61 to its eastern and western extents, respectively, as well as crossing Footpath MALW62. The permissive path is approximately 1 km in length and runs in a northwest-southeast direction along the northern and eastern boundaries of Fields E19, E20, E22 and E26; and
- Permissive path for pedestrians which connects Bridleway MALW59 to Footpath SSTQ5 to is northern and southern extents, respectively. The permissive path is approximately 0.8 km in length and runs in a north-south direction along the western boundaries of Fields E19, E20, E21 and E26.

Other Works

1.2.16 Other works include the following:

- Fencing, security and lighting;
- Landscaping and habitat management;
- Access tracks;
- Surface water drainage; and
- Construction laydown areas/compounds.

1.3 This Document

1.3.1 This Outline CTMP provides a framework for the management of construction vehicle movements to and from the Order Limits, to ensure that the effect of the construction phase and operational and maintenance phase on the local highway network is minimised. It is an evolving document that will be updated prior to construction to reflect any considerations made during the DCO process, and to add detail that

arises from the post-determination procurement and Engineering Principal Contractor (EPC) appointment.

1.3.2 Final CTMPs and a Final Operational Environmental Management Plan (OEMP) including traffic measures needed for scheduled replacements in substantial accord with this Outline CTMP, will be approved by Wiltshire Council and South Gloucestershire Council, as the local planning and highway authorities, prior to construction commencing. This will include for an option for separate Final CTMPs to be prepared for each Solar PV Site and the Cable Route Corridor.

1.3.3 The Outline CTMP has the following objectives:

- Minimise the number of HGVs and other vehicles on the local road network that are associated with the construction phase and operational and maintenance phase of the Scheme;
- Ensure the safe movement of equipment, material and construction workers;
- Minimise the effects of construction traffic on the local community; and
- Set out measures to be adhered to by all associated with the construction phase and operational and maintenance phase of the Scheme.

1.3.4 This CTMP is structured as follows:

- Construction methodology;
- Site access;
- Construction vehicle trip generation;
- Construction vehicle routing;
- Abnormal load movement; and
- Mitigation and management measures.

1.3.5 It will be the responsibility of the undertaker to ensure that the appointed contractor complies with all statutory regulations and guidelines in relation to construction and movement activities.

1.3.6 This Outline CTMP has been prepared following various stages of consultation, and through discussions with officers at Wiltshire Council. It should be read in conjunction with **ES Volume 1, Chapter 13: Transport and Access [EN010168/APP/6.1]** and **ES Volume 3, Appendix 13-1: Transport Assessment [EN010168/APP/6.3].**

1.4 Construction Programme

1.4.1 The construction programme is anticipated to last approximately 24 months for the Solar PV Sites and 18 months for the Cable Route Corridor. The indicative construction programme is summarised in **Table 1**.

Table 1: Indicative Construction Programme

Site/ Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Lime Down A																								
Lime Down B																								
Lime Down C																								
Lime Down D																								
Lime Down E																								
Existing National Grid Melksham Substation																								
BESS Area																								
400kV Substation																								
Cable Route Corridor																								

2 Construction Site Access Arrangements

2.1 Solar PV Sites

2.1.1 There will be a total of 21 access points, plus three crossings, for the Solar PV Sites. All access will be taken from the public highway. Where practicable, existing agricultural accesses will be utilised. These will be widened and formalised as appropriate. Visibility splays will be kept clear.

2.1.2 The access points will be retained for use by maintenance vehicles, once the Scheme is operational.

2.1.3 The access locations for the Solar PV Sites are shown in **ES Volume 2, Figure 13-11: Construction Access Locations: Solar PV Sites [EN010168/APP/6.2].**

2.1.4 The access arrangements are shown in **Drawings PL01** to **PL21**, contained in **Appendix A**. The PL reference correlates with the figure reference (e.g. the location of PL01 is at point 1 in **ES Volume 2, Figure 13-11: Construction Access Locations: Solar PV Sites [EN010168/APP/6.2]**). The drawings show the achievable visibility splays, and the swept path analysis for the maximum sized vehicle that will use the specific access.

2.1.5 During the construction phase, banksmen will be deployed at each access whenever construction vehicles are accessing or egressing the Order Limits. This will ensure the safe movement of construction vehicles in and out of the Solar PV Sites and will overcome any instances where the achievable visibility is below guidance, which is a factor at a small number of access locations.

2.1.6 All construction vehicles will access and egress in a forward gear.

2.1.7 Temporary signage will be erected in the vicinity of the accesses during the construction phase. Diagram 7301 ‘WORKS TRAFFIC’ in the Traffic Signs Regulations and General Directions (TSRGD) (2016) (Ref 1) will be used to indicate the access and will read ‘WORKS TRAFFIC LARGE VEHICLE TURNING’. These signs will be white text and red background 1050 x 750 mm mounted in ‘A’ frames. The temporary signs will be in place for the duration of the construction phase.

2.1.8 The proposed point of access are summarised in **Table 2**.

Table 2: Solar PV Sites - Access Points

Ref*	Link	Existing or New	Use
Lime Down A			
5	West of Road between Fosse Way and Sherston	Existing	Construction/ Operation and Maintenance
6	East of Road between Fosse Way and Sherston	Existing	Construction/ Operation and Maintenance
Lime Down B			
4	East of Fosse Way (byway), north of crossroads	New	Construction/ Operation and Maintenance
4ab	Crossing between Honey Lane and Fosse Way	New	4a. Construction 4b. Construction/ Operation and Maintenance
Lime Down C			
1	West of Fosse Way south of railway bridge	Existing	Construction/ Operation and Maintenance
2	East of Fosse Way south of railway bridge	Existing	Construction/ Operation and Maintenance
2ab	Crossing on Pig Lane	New	Construction/ Operation and Maintenance
3	East of Fosse Way north of railway bridge	Existing	Construction/ Operation and Maintenance
19	AIL Access from Fosse Way north of rail bridge	Existing	Construction/ Operation and Maintenance
Lime Down D			
7	East of Bradfield Cottages road	New	Construction/ Operation and Maintenance
8	West of Bradfield Cottages road	New	Construction/ Operation and Maintenance
9	Unnamed road East of Hullavington crossroads	Existing	Construction/ Operation and Maintenance
10	North off A429	Existing	Construction
20	AIL Access from Bradfield Cottages	New	Construction/ Operation and Maintenance

Ref*	Link	Existing or New	Use
21	Emergency Access to Lime Down D 400 kV Substation and BESS from Hill Hayes Lane	New	Construction/ Operation and Maintenance
Lime Down E			
11	North of Cabbage Lane	Existing	Construction/ Operation and Maintenance
12	North of Cabbage Lane	Existing	Construction/ Operation and Maintenance
13	North of Cabbage Lane	Existing	Construction/ Operation and Maintenance
14	End of Cabbage Lane	Existing	Construction/ Operation and Maintenance
15	End of Cabbage Lane	Existing	Construction/ Operation and Maintenance
16	South of Cabbage Lane	Existing	Construction/ Operation and Maintenance
17	South of Cabbage Lane	Existing	Construction/ Operation and Maintenance
17ab	South on Cabbage Lane	Existing	Construction/ Operation and Maintenance
18	South of A429	Existing	Construction/ Operation and Maintenance

2.1.9 The proposed haul roads serving Lime Down B from Access 4 and Lime Down D from Access 10 will be temporary for construction, replacement and decommissioning phases only.

2.1.10 The proposed access arrangements are considered suitable for the following reasons:

- The majority of the accesses are currently regularly used by agricultural vehicles and are therefore considered appropriate for use by construction vehicles, with formalisation and widening as required;
- Banksmen will be deployed at each access whenever construction vehicles are accessing or egressing the Order Limits; and
- All construction vehicles will access and egress in a forward gear.

2.2 Cable Route Corridor

2.2.1 A total of 28 access points are required for the construction phase of the Cable Route Corridor, approximately one access for every 1 kilometre of the Cable Route Corridor. The locations of these accesses are shown in **ES Volume 2, Figure 13-10: Traffic Survey Locations: Cable Route Corridor [EN010168/APP/6.2].**

2.2.2 The access arrangements are shown in **Drawings PL101** to **PL128**, contained in **Appendix B** and described in **Table 2**. The drawings show the achievable visibility splay, and the swept path analysis for the maximum sized vehicle that will use the specific access.

2.2.3 As with the Solar PV Sites, during the construction phase, banksmen will be deployed at each access whenever construction vehicles are accessing or egressing the Cable Route Corridor. This will ensure the safe movement of construction vehicles in and out of the access points and will overcome any instances where the achievable visibility is below guidance, which is a factor at a small number of access locations.

2.2.4 All construction vehicles will access and egress the Cable Route Corridor access points in a forward gear.

2.2.5 Temporary signage will be erected in the vicinity of the accesses during the construction phase. Diagram 7301 'WORKS TRAFFIC' in the Traffic Signs Regulations and General Directions (TSRGD) (2016) (Ref 1) will be used to indicate the access and will read 'WORKS TRAFFIC LARGE VEHICLE TURNING'. These signs will be white text and red background 1050 x 750 mm mounted in 'A' frames. The temporary signs will be in place for the duration of the construction phase.

2.2.6 The proposed points of access are summarised in **Table 3** below.

Table 3: Cable Route Corridor Access Points

Ref	Link	Existing or New	Use
101	North of The Street, Grittleton	New	Construction
102	South of The Street, Grittleton	Existing	Construction
103	North of Neeld Court	Existing	Construction
104	South of Neeld Court	Existing	Construction
105	North of Unnamed Road, Sevington	Existing	Construction
106	South of Unnamed Road, Sevington	Existing	Construction
107	North of Cromhall Lane	New	Construction
108	South of Cromhall Lane	New	Construction
109	North of Fowlswick Lane	Existing	Construction

Ref	Link	Existing or New	Use
110	South of A420	Existing	Construction
111	North of A420	Existing	Construction
112	North of Chippenham Lane	New	Construction
113	South of Chippenham Lane	New	Construction
114	East of Stowell Lane	Existing	Construction
115	North of A4 Bath Road	Existing	Construction
116	North of Unnamed Road, East of Easton;	New	Construction
117	South of Unnamed Road, East of Easton	New	Construction
118	East of Unnamed Road, South of Easton	Existing	Construction
119	West of Unnamed Road, South of Easton	Existing	Construction
119a	South of Lacock Road, South of Easton	Existing	Construction
120	West of Coppershell	Existing	Construction
121	South of Coppershell	Existing	Construction
122	North of Corsham Road	Existing	Construction
123	North of Silver Street	Existing	Construction
124	South of Silver Street	Existing	Construction
125	West of B3353	Existing	Construction
126	South of Westlands Lane (West)	Existing	Construction
127	South of Westlands Lane (East)	Existing	Construction

2.2.7 The proposed access arrangements are considered suitable for the following reasons:

- The majority of the accesses are currently regularly used by agricultural vehicles and are therefore considered appropriate for use by construction vehicles, with formalisation and widening as required;
- Banksmen will be deployed at each access whenever construction vehicles are accessing or egressing the Cable Route Corridor; and
- All construction vehicles will access and egress the Cable Route Corridor access points in a forward gear.

2.3 Detailed Design

2.3.1 Prior to carrying out any work to the public highway, the detailed design of such works must be submitted to the highway authority for technical approval and include:

- A programme for the works, method statement and any traffic management proposals;
- Detailed technical drawings which, for example, would include:

  - General arrangement plan;
  - Surfacing, Kerbing and Utilities Plan;
  - Sections and Setting Out Plan; and
  - Construction Details Plan.
- Any health and safety documentation required under the CDM Regulations;
- Stage 1 and Stage 2 Road Safety Audits; and
- Details of the contractor.

2.3.2 Design of works to the track to the south-west of Rodbourne Road (Works Number 8b) needed to facilitate permanent access to Lime Down E (Work No. 1 to 6 and 9 to 10) will be undertaken in consultation with the Wiltshire Council Conservation Officer and Highway Officer.

2.3.3 Any works undertaken in the public highway will be undertaken by contractors with a New Roads Street Works Act (NRSWA) accreditation, will be Street Works Qualifications Registered (SWQR) and have the appropriate level of public liability insurance.

2.3.4 Wiltshire Council will be contacted to book road space prior to any works undertaken in the public highway.

2.4 Traffic Management/Regulation Measures

2.4.1 Details of the form and proposed locations of any signs or signals to be placed on a public highway will be submitted to Wiltshire Council and South Gloucestershire Council in advance of being placed (either as part of the CTMP or separately).

2.4.2 Where Grid Connection Cables may be laid longitudinally in the highway, rolling traffic management will be implemented to allow for construction and agreed with Wiltshire Council in advance. This will potentially be required along Goodes Hill on the B3353 and along Westlands Lane in the vicinity of the Existing National Grid Substation.

2.5 Management of Access Points

2.5.1 All construction vehicles will access and egress the Solar PV Sites and Cable Route Corridor access points in a forward gear.

2.5.2 A booking system will be set up to manage arrivals and departures at each access. The intention of this procedure is to avoid instances of HGVs passing each other in opposite directions on the local roads surrounding the Site.

2.5.3 Banksmen will be deployed at each access whenever construction vehicles are accessing or egressing the Site. This will ensure the safe movement of construction vehicles in and out of the accesses.

2.5.4 Temporary signage will be erected in the vicinity of the accesses during the construction phase. Diagram 7301 'WORKS TRAFFIC' in the Traffic Signs Regulations and General Directions 2016 (TSRGD) (Ref 1) will be used to indicate the access and will read 'WORKS TRAFFIC LARGE VEHICLE TURNING'. These signs will be white text and red background 1050 x 750 mm mounted in 'A' frames. The temporary signs will be in place for the duration of the construction phase.

2.5.5 A small number of accesses will have specific traffic management in place, for example, accesses with reduced visibility.

2.5.6 Details of the site access arrangements, including any traffic management required during construction, is set out in **ES Volume 3**, **Appendix 13-1: Transport Assessment [EN010168/APP/6.3].**

3 Construction Vehicle Trip Generation

3.1.1 The section sets out the trip generation associated with the construction, operation and maintenance, and decommissioning phases of the Scheme.

3.2 Solar PV Sites

HGVs

3.2.1 **Table 4** sets out a summary of the HGV movements that will be associated with the construction phase of the Scheme. The vast majority of deliveries by HGV will be by 16.5m articulated vehicles or 8-10m rigid vehicles. However, there will be a small number of abnormal load deliveries associated with the substation transformers. Abnormal load movements are discussed separately in **Section 6**.

3.2.2 It is expected that there will be a relatively flat profile of deliveries throughout the construction period. Therefore, an average number of deliveries per day has been calculated based on the length of the construction period. A 50% uplift on these numbers has been applied to provide a forecast of the peak number of daily deliveries.

Table 4: Lime Down: Anticipated Construction Deliveries (HGV)*

Construction Activity	Vehicle Size (Max)	Solar PV Site						400kV Substation	BESS	Total
		Lime Down A	Lime Down B	Lime Down C	Lime Down D (West)	Lime Down D (East)	Lime Down E	Lime Down D (West)	Lime Down D (West)	Total
Construction Phase (Working Days)		230	230	434	434	102	357	153	485	-
Solar PV Panels	16.5mArticulated	120	110	340	315	75	240	-	-	1,200
Solar PV Mounting Structures	16.5mArticulated	60	50	150	135	35	110	-	-	540
Waste	10mTipper	30	20	60	55	15	50	-	-	230
Skids/Power Station	16.5mArticulated	7	7	19	18	4	13	-	-	68
Cable (for PV Sites)	16.5mArticulated	5	5	15	15	5	10	-	-	55
Substation Units/Cabling	16.5mArticulated	-	-	-	-	-	-	-	445	445
Substation/BESS Aggregate	10mTipper	130	-	130	-	130	130	1,370	975	2,865
Access Track	10mTipper	500	460	1,390	1,305	305	980	-	-	4,940
General – Fencing, landscaping etc	10mRigid	270	250	760	715	165	540	-	-	2,700
Total HGV Deliveries		1,122	902	2,864	2,558	734	2,073	1,370	1,420	13,043
Total HGV Movements		2,244	1,804	5,728	5,166	1,468	4,146	2,740	2,840	26,086
Average Day HGV Deliveries		5	4	7	6	8	6	9	3	48
Average Day HGV Movements		10	8	14	12	16	12	18	6	96
Peak Day HGV Deliveries (50% Uplift)		8	6	11	9	12	9	14	5	74
Peak Day HGV Movements (50% Uplift)		16	12	22	18	24	18	28	10	148

*Figures rounded to the nearest whole number.

3.2.3 **Table 4** shows that there could be the following HGV movements:

- Average HGV Arrivals and Departures per Day – 48 Deliveries (96 Movements); and
- Peak HGV Arrivals and Departures per Day – 74 Deliveries (148 Movements).

3.2.4 As shown in the construction programme in **Table 1**, there is only one month where the construction of all Solar PV Sites overlaps. Therefore, the number of HGV movements on the network is likely to be fewer than presented in **Table 4** on a typical day.

3.2.5 Each Solar PV Site is likely to have a peak period of construction during initial site set up where the number of construction vehicles visiting the Site is higher than the daily average. However, these periods will not overlap. Therefore, it is considered that 74 HGV arrivals (148 movements) represents a reasonable worst-case assumption for the number of peak daily HGV movements associated with the construction of the Scheme.

3.2.6 Construction vehicles will avoid travel during the network peak hours where possible. Therefore, deliveries will be scheduled for between 09:30 and 16:30 on weekdays and between 09:30 and 12:30 on Saturdays, where practicable.

Cars/LGVs

3.2.7 On a peak day, assuming the build out of all areas/elements of the Scheme concurrently, there is expected to be a peak of 622 workers spread across the Solar PV Sites. For assessment, construction workers have been spread across the Solar PV Sites on a proportional basis, based on the size of each area.

3.2.8 A Construction Worker Travel Plan (CWTP) has been prepared and is presented in **Appendix C.** This is discussed further in **Section 9**. The CWTP includes a measure for the provision of shuttle buses to transport construction workers to and from the Site. This is particularly important for non-local workers, who will stay in local accommodation and be transported to the Site. It can also be utilised by other workers as appropriate. It is expected that a mixture of coaches and minibuses will be used. On average, it is expected that a shuttle bus will be able to accommodate 20 workers. In addition, workers who drive will be encouraged to car share where possible.

3.2.9 Shuttle buses will be used to transport non-local construction workers from their accommodation to the Site. For the purposes of the assessment, it has been assumed that 50% of workers will arrive by

shuttle bus. The remainder will arrive by car with an assumed 1.5 construction workers per car.

3.2.10 Based on 622 construction workers, the forecast number of cars/LGVs are set out in **Table 5**.

Table 5: Construction Worker Trips

Construction Activity	Solar PV Sites
Construction Workers (Busy Day)	622
Shuttle Bus (20 Workers per Bus)	16
Car (1.5 Workers per Car)	208
Total (Arrivals)	224
Total Movements (Arrivals + Departures)	448

*Rounded to nearest whole number

3.3 Cable Route Corridor

3.3.1 For the construction of the Cable Route Corridor, 28 temporary accesses are required, approximately one every kilometre. It is forecast that each access will generate up to eight arrivals and eight departures per day for the delivery of material and equipment. Around half of these will be HGV trips and half LGV trips. There will also be around 10 construction workers per access. Therefore, accesses along the cable route will generate the following trips per day:

- Material and equipment:
  - HGV - 4 deliveries (8 movements) per access; and
  - LGV - 4 deliveries (8 movements) per access.
- Construction worker arrivals (car/van) – 10 arrivals (20 movements). As a worst-case assessment, it is assumed that all workers will arrive via a private vehicle.

3.3.2 HGV trips will largely consist of 10m tipper trucks, including those required to construct the haul road and laydown areas. There will be approximately 132 AIL movements associated with cable drum deliveries over the length of the route. Where possible a number of cable drums will be delivered in convoy to reduce disruption.

3.3.3 For the purpose of the assessment presented in **ES Volume 1, Chapter 13: Transport and Access [EN010168/APP/6.1]**, it has been assumed that daily flows for each access (set out in Paragraph 3.3.1) would continue for the duration of the construction phase with all accesses along the Cable Route Corridor in operation concurrently. However in practice,

each access is expected to be used for approximately 90 non-consecutive days over the construction phase with up to four accesses (one per 5.5 km section of the Cable Route Corridor) in operation at one time. Based on this, the Cable Route Corridor will generate the following trips on an average day.

- Material and equipment:
  - HGV – 16 deliveries (32 movements); and
  - LGV - 16 deliveries (32 movements).
- Construction worker arrivals (car/van) – 40 arrivals (80 movements). As a worst-case assessment, it is assumed that all workers will arrive via a private vehicle.

3.3.4 These trips will be distributed around the local highway network, in relation to the local of each access. This is discussed further in **Section 6**.

3.4 Timings of Construction Vehicle Movements

3.4.1 Deliveries by HGV will be coordinated through a booking system to avoid travel during the network peak hours where possible. Therefore, deliveries will be scheduled for between 09:30 and 16:30 on weekdays and between 09:30 and 12:30 on Saturdays, where practicable. Some deliveries may be required outside of these hours, if unavoidable.

3.4.2 Construction worker shifts will be scheduled so that workers are not traveling during the network peak hours of 08:00-09:00 and 17:00-18:00.

3.4.3 Therefore, there should be limited or no construction vehicle movement between 08:00-09:00 and 17:00-18:00.

3.5 Summary

3.5.1 On a peak day during the construction phase, the following movements could be generated:

- Solar PV and BESS Sites: Lime Down A, B, C, D and E:
  - HGV – 74 (148 total movements); and
  - Car/Shuttle associated with construction workers – 224 (448 total movements).
- Cable Route Corridor:
  - HGV – 16 deliveries (32 movements);
  - LGV - 16 deliveries (32 movements); and

- Construction worker arrivals (car/van) – 40 arrivals (80 movements). As a worst-case assessment, it is assumed that all workers will arrive via a private vehicle.

4 Construction Vehicle Routing

4.1.1 This Section provides details of the construction vehicle routes to each access of the Scheme.

4.1.2 Drivers will be made aware of the routes to each access in advance of driving to the Site. Drivers will be required to follow the routes and will not be permitted to use any alternative routes. The selected routes are considered the most appropriate to each access.

4.2 Lime Down A, B and C

4.2.1 The construction vehicle route for Lime Down A, B and C is shown in **Figure 4.1**.

4.2.2 A summary of the construction vehicle route for each area is set out below:

- **Lime Down A:** M4 Junction 18 → A46 → B4040 → B4039 → Unnamed Road west of Grittleton → Alderton Road → Fosse Way → Unnamed Road between Fosse Way and Sherston; and
- **Lime Down B and C:** M4 Junction 18 → A46 → B4040 → B4039 → Unnamed Road west of Grittleton → Alderton Road → Fosse Way.

4.3 Lime Down D and E

4.3.1 The construction vehicle route for Lime Down D and E is shown in **Figure 4.1**.

4.3.2 A summary of the construction vehicle route for each area is set out below.

- **Lime Down D (west):** M4 Junction 17 → A429 → Unnamed Road east of Hullavington → Bradfield Cottages;
- **Lime Down D (east):** M4 Junction 17 → A429; and
- **Lime Down E:** M4 Junction 17 → A429.

4.4 Cable Route Corridor

4.4.1 A summary of the construction vehicle routes for each access for the Cable Route Corridor is set out below and shown in **Figure 4.2**.

4.4.2 A summary of the construction vehicle route for each area is set out below:

- **Access 101 and 102:** M4 Junction 18 → A46 → B4040 → B4039 → Unnamed Road west of Grittleton → The Street, Grittleton;

- **Access 103 and 104:** M4 Junction 18 → A46 → B4040 → B4039 → Unnamed Road west of Grittleton → Road South of Grittleton Crossroad → Neeld Court;
- **Access 105 and 106:** M4 Junction 18 → A46 → B4040 → B4039 → Unnamed Road west of Grittleton → Road South of Grittleton Crossroad → Sevington;
- **Access 107 and 108:** M4 Junction 18 → A46 → B4040 → B4039 → Unnamed Road west of Grittleton → Road South of Grittleton Crossroad → Cromhall Lane;
- **Access 109:** M4 Junction 17 → A350 → A420 → B4039 → Fowlswick Lane;
- **Access 110 and 111:** M4 Junction 17 → A350 → A420;
- **Access 112 and 113:** M4 Junction 17 → A350 → A420 → Chippenham Lane;
- **Access 114:** M4 Junction 17 → A350 → A420 → Chippenham Lane → Sheldon Corner;
- **Access 115:** M4 Junction 17 → A350 → A4 Bath Road;
- **Access 117 and 118:** M4 Junction 17 → A350 → A4 Bath Road → Unnamed Road South of Chequers;
- **Access 119 and 120:** M4 Junction 17 → A350 → Corsham Road → Easton;
- **Access 121 and 120:** M4 Junction 17 → A350 → Corsham Road → Coppershell;
- **Access 123:** M4 Junction 17 → A350 → Corsham Road;
- **Access 124, 125 and 126:** M4 Junction 17 → A350 → A365 → B3353; and
- **Access 127 and 1228:** M4 Junction 17 → A350 → A365 → B3353 → Westlands Lane.

4.5 Route Signage

4.5.1 Temporary road signage will be implemented along the designated routes to inform background traffic of the ongoing construction works and to direct construction traffic to and from the Site. The signs will be located at key points along the route, including junctions.

4.5.2 All signage will be compliant with Chapter 8 of the Traffic Signs Manual (Ref 1) where applicable. The following points will be considered when locating signage:

- The position of the sign in relation to the highway;
- Possible distraction to drivers; and
- The proximity to junctions and roundabouts.

4.5.3 The signage strategy will be agreed with the local highway authority through the Final CTMP(s).

4.6 Highway Improvement Areas

4.6.1 To facilitate the movement of construction traffic and AILs, Highway Improvement Areas have been identified. These comprise various sections of existing highway within the administrative areas of Wiltshire Council and South Gloucestershire Council to facilitate access to the Solar PV Sites and Cable Route Corridor with a total area of approximately 12 ha.

4.6.2 All construction routes can accommodate construction vehicle movements, with Highway Improvement Areas in place. Where the construction routes pass through sections of road that are considered narrow and require widening or require surfacing works, these have been adopted into the design as 'Highway Improvement Areas'. This will ensure that sufficient passing room is present along the routes or traffic management is implemented to ensure the safe movement of construction vehicles.

4.6.3 Additional temporary Highway Improvement Areas have also been identified to facilitate AIL movements. These are described in further detail in **Section 5** of this report.

4.7 Management of Deliveries

4.7.1 Due to the relatively low number of vehicles associated with the construction phase there is not anticipated to be any significant delay to background traffic.

4.7.2 All deliveries will be scheduled in advance using a booking system. Drivers will be instructed to stop in an appropriate layby or service station and make contact if they are likely to miss their allotted slot to allow the schedule to be adapted in as much as possible. The intention of this procedure is to avoid instances of HGVs passing each other in opposite directions on the local roads surrounding the Site.

Procedure for Arrival to Site

- Drivers to be notified of scheduled arrival time ahead of delivery to the Site and which access/route to use;
- When the delivery vehicle is due the banksmen will be mobilised and will go to position at the relevant Site access; and
- Banksmen will assist HGV's to manoeuvre from the public highway into the Site accesses, but will not direct general traffic unless necessary.

4.7.3 The following procedure will be initiated when HGVs are leaving the Site:

Procedure for Leaving the Site

- Before drivers depart, the Site Manager will be notified. They will then mobilise the banksmen at the relevant Site access;
- Drivers will be advised when the banksmen are in place; and
- Banksmen will guide the drivers exiting the Site on to the public highway.

4.7.4 Mitigation measures will be provided throughout the construction phase and are discussed in more detail in **Section 6**.

5 Abnormal Loads

5.1.1 There will be a number of abnormal load movements associated with the construction of the Scheme. These are summarised within this chapter.

5.2 Trip Generation and Access

Solar PV and BESS Sites (Lime Down A, B, C, D and E)

5.2.1 As part of the Project, AIL vehicles will be required for the delivery of the transformers to the proposed substations located in Lime Down A, C, D and E. There will be one AIL delivery per transformer. The number of transformers in each location will be as follows:

- Lime Down A: 2 x Transformers;
- Lime Down C: 2 x Transformers;
- Lime Down D: 7 x Transformers; and
- Lime Down E: 2 x Transformers.

5.2.2 This will result in the following number of AIL transformer deliveries on each identified AIL route:

- Lime Down A and C 132 kV Substation Route: 4 x AIL deliveries;
- Lime Down D 400 kV Substation Route: 5 x AIL deliveries; and
- Lime Down D and E 132kV Substation Route: 4 x AIL deliveries.

5.2.3 Access to the 132 kV substation located in Lime Down D will be accessed from a separate route to that used to the 400 kV substation. The access to the 132 kv Substation is located to the north of the low bridge on the A429 and the construction route will avoid this.

5.2.4 It is also anticipated that they may be up to 10 AIL movements associated with cable delivery within the Solar PV Sites. However, the vehicle is not nearly as big as those required to deliver the transformers at approximately 26 m in length.

5.2.5 The Abnormal Load movements associated with the delivery of transformers to the Solar PV and BESS Sites and their access are summarised in **Table 6**. An AIL assessment has been undertaken of the routes to the substations and is presented in **Appendix D**.

Table 6: Abnormal Load Movements

Substation Location	Transformer Dimensions (Length/Width/Height)	Vehicle Type	Access Number	Frequency
Lime Down A	90-120MVA 132-33 kV - L: 7.7 m, W: 5.3 m, H: 4.9m – Weight: 120 tonnes	16 Axle Girder Frame Abnormal Load Carrier	5	2
Lime Down B	No transformer deliveries			
Lime Down C	90-120MVA 132-33 kV - L: 7.7 m, W: 5.3 m, H: 4.9m – Weight: 120 tonnes	16 Axle Girder Frame Abnormal Load Carrier	19	2
Lime Down D (West)	240MVA 400-132 kV - L: 10 m, W: 3.8 m, H: 4.7m – Weight: 183 tonnes	16 Axle Girder Frame Abnormal Load Trailer with Two Tractors	20	5
Lime Down D (East)	90-120MVA 132-33 kV - L: 7.7 m, W: 5.3 m, H: 4.9m – Weight: 120 tonnes	16 Axle Girder Frame Abnormal Load Carrier	10	2
Lime Down E	90-120MVA 132-33 kV - L: 7.7 m, W: 5.3 m, H: 4.9m – Weight: 120 tonnes	16 Axle Girder Frame Abnormal Load Carrier	18	2

5.2.6 Transformers are assumed to have a design life of 30 years. Transformers may require replacement once during the lifetime of the Scheme, although replacement will only be carried out if required for performance or health and safety reasons.

Cable Route Corridor

5.2.7 The cable drums will be delivered on a Cable Reel Trailers. In comparison to the transformer deliveries, these will be delivered by smaller AIL vehicles or HGVs where possible. It is estimated that the Cable Route may require around 132 cable drum deliveries over the length of the cable route. This means that each of the 11 AIL access points serving the Cable Route Corridor, would accommodate approximately 12 deliveries.

5.2.8 The Cable Reel Trailer and vehicle will get as close to the relevant access location as possible. From here, the cable drum will be unloaded and towed along the haulage road to the appropriate location for installation. This will be managed through banksmen and/or traffic marshals.

5.2.9 To ensure minimal impact upon on the local road network, AIL vehicle movements will be undertaken during off-peak times and delivered in convoy to minimise incidents of disruption.

5.3 Routes for Abnormal Load Movements

Solar PV Sites

5.3.1 It is assumed loads will be transported by boat to the Avonmouth Docks. From here they will use the M5 and M4 to reach the strategic motorway junctions. From the M4, the routes to the relevant substations within each Site are as follows:

- **Lime Down A and C (Primary)**: M4 J18 → B4040 → B4039 → Unnamed rural road between Yatton Keynell and Grittleton → Alderton Road → Fosse Way → Site access;
- **Lime Down A and C (Alternative)**: M4 J17 → A350 → A420 → B4039 → Unnamed rural road between Yatton Keynell and Grittleton → Alderton Road → Fosse Way → Site access;
- **Lime Down D:** M4 J17 → A429 → Road east of Hullavington → Bradfield Cottages → Site access; and
- **Lime Down DE:** M4 J15 → A419 → A429 → Site access.

5.3.2 The AIL routes for the Solar PV and BESS Sites are shown in **Figure 5.1**.

Cable Route Corridor

5.3.3 The AIL routes for the Cable Route Corridor are shown in **Figure 5.2**.

5.3.4 An AIL assessment has been undertaken of the routes to the Cable Route Corridor and is presented in **Appendix D**. It concludes that all accesses are accessible by the Cable Reel Trailer.

5.4 Highway Mitigation

5.4.1 To accommodate the proposed AIL movements, temporary mitigation will be required at certain locations along the identified AIL routes. These form part of the Highway Improvement Areas (HIA). A description of the improvements is provided below:

- A350/Corsham Road Junction, Lacock – Temporary removal of traffic signals, keep left bollards on traffic islands and 1no. street lighting column to be temporarily removed (it is assumed that the traffic islands are overrunable and will remain in place). These works are required to allow the AIL vehicle to turn at the junction safely;

- A365 Devizes Road/B3109 Bradford Road, Box Fiveways Junction – Temporary removal of traffic signals, keep left bollards on traffic islands and 1no. signage board located on traffic island (it is assumed that the traffic islands are overrunable and will remain in place;
- A46 Bath Road/Acton Turville Road Junction, Tormarton – Minor temporary road widening at the junction and temporary removal of keep left bollards on traffic island (it is assumed that the traffic island is overrunable and will remain in place);
- A46 Bath Road/B4040 Junction, Old Sodbury – Temporary minor road widening at the junction, temporary removal of give-way and no-entry signage, and trimming of existing hedge/tree branches;
- B4039 At the Salutation Inn, Castle Coomb – Temporary minor road widening at the junction, and trimming of existing hedge/tree branches. These works are required to allow the abnormal load vehicle to turn at the junction safely;
- Alderton Road/The Street Junction, Grittleton – Temporary removal of stop sign due to vehicle oversail of verge;
- Fosse Way/Alderton Road, North of Grittleton – Temporary minor road widening at the bend, temporary removal of chevron signage, and trimming of existing hedge and other vegetation;
- Fosse Way Junction – Temporary minor road widening at the junction and trimming of existing tree branches; and
- A429 Crudwell Road/B4014 Roundabout, Malmesbury – Temporary minor road widening, temporary removal of 2no. chevron/turn left sign assemblies.

5.4.2 Attention should be made to avoiding removal or damaging historic kerbs and designated milestones as a result of construction traffic movements. Any street furniture that is temporarily removed will be reinstated. Where temporary mitigation is implemented, this will be removed following AIL movements.

5.5 Management and Measures

5.5.1 All abnormal load movements will be co-ordinated by a haulage specialist. Traffic management will be in place to support the movement. The exact nature of the traffic management will be agreed with the local highway authority and police prior to the delivery being undertaken. However, it is likely to include the following procedures/measures:

- All appropriate notifications will be made to the local highway authority and local police force;

- The route will be planned and agreed with the local highway authority local police force;
- Stakeholders along the route will be notified of the date and time of the movement;
- Vehicles will be clearly marked with the appropriate plates and lighting;
- Vehicles will be escorted to the Site; and
- Rolling road closures will be used where necessary.

6 Construction Traffic Mitigation and Management Measures

6.1 Introduction

6.1.1 The contractor will introduce measures to minimise the impact resulting from construction activities. It will be the responsibility of the Project Manager and Site Manager to oversee the implementation of the mitigation and management measures.

6.1.2 The measures are set out below.

6.2 Public Rights of Way

- An **Outline PRoW and Permissive Paths Management Plan [EN010168/APP/7.17]** will be implemented during the construction phase of the Scheme. Where a vehicle track crosses a Public Right of Way, the following measures will be implemented:
  - A widened access track to ensure vehicles can pass PRoW users safely (including cyclists and equestrians);
  - The provision of banksmen at either end of the PRoW, to hold vehicles if a PRoW user is present and advise PRoW users of the potential for construction vehicles to be present;
  - Speeds to be limited to 10 mph;
  - Drivers will stop and give-way to any PRoW user (in particular for equestrians) that they encounter;
  - Appropriate signage will be installed along the PRoW to make PRoW users aware of the construction activity. This will include information on construction times and contact details for a public liaison officer;
  - The PRoW will be kept clear of construction vehicles and apparatus outside of permitted construction hours so far as is practicable to do so; and
  - Any damage to the surface of the PRoW will be repaired as soon as practicable. The surface will be returned to its original condition following completion of construction.

6.3 Specific Highway Measures

- Where existing accesses are utilised, these will be widened and formalised as appropriate. Visibility splays will be kept clear throughout the construction period;

- The Offsite Highway Improvement Areas are sections of the highway network that will either contain localised improvements, such as passing areas, or traffic management. These areas will support the movement of construction vehicles on narrower sections of the local highway network; and
- Road widening undertaken in the Cotswold National Landscape (CNL) will use appropriate materials, such as conservation kerbs where practicable, and subject to the technical approval of the highway authority. Conservation kerbs are designed for environmentally sensitive areas and provide a high-quality aesthetic finish.

6.4 Traffic Management

- Traffic Management Measures, including signage to warn drivers of the presence of construction traffic during the construction phase. Traffic marshals or banksmen will also be utilised to ensure the safe passage of construction vehicles at access junctions;
- On some sections of the Cable Route Corridor trenching will be required to crossroads. This will be managed through Traffic Management. On no-through roads any affected residents or businesses will be notified and works undertaken in a day or night for excavation and another day or night to allow for curing time of the tarmac. Steel plates will be available on site for emergencies or emergency vehicles. Pedestrian access to residential properties will be maintained at all times;
- Traffic management for abnormal load movements will be agreed with the local highway authority and police prior to the abnormal load movements taking place;
- There will be a commitment to stopping construction deliveries during Badminton Horse Trials; and
- Any further measures required during major events at Castle Combe Race Circuit, WOMAD, or at other local events will be included in the Final CTMPs following consultation with the Local Highway Authority.

6.5 Signage

- Signs to direct construction vehicles associated with the development will be installed along the construction traffic route. Delivery drivers, contractors and visitors will be provided with a route plan in advance of delivering to Site to ensure that vehicles follow the identified route. The signage strategy will be agreed with the local highway authorities through the Final CTMPs; and

- All signage on the designated route will be inspected daily by the Site Manager, to ensure they are kept in a well maintained condition and located in safe and appropriate locations.

6.6 Vehicle Movement

- Construction deliveries by HGV will be coordinated to arrive/depart between 09:30-16:30 on weekdays where practicable to avoid the network peak hours of 08:00-09:00 and 17:00-18:00;
- Construction deliveries by HGV will be coordinated to arrive/depart between 09:30-12:30 on Saturdays where practicable;
- Banksmen will be provided at the Site accesses to indicate to construction traffic when it is safe for them to enter and exit the Site;
- A Construction Worker Travel Plan will be implemented, to encourage construction workers to travel to the Site via sustainable travel, where possible. Measure includes the provision of a shuttle bus and a car sharing scheme. Shifts will be organised to avoid construction worker movement between 08:00-09:00 and 17:00-18:00;
- The management associated with Abnormal Load movements will be agreed with the local highway authority and the police prior to the delivery;
- Drivers will receive training and be made aware of the routes to each access in advance of driving to the Site. Delivery drivers will therefore be required to follow the routes and will not be permitted to use any alternative routes;
- The requirements of the DCO and Final CTMPs are legally binding and measures to enforce drivers to use construction routes will be set out in the Final CTMPs. Any drivers not following construction routes will receive retraining;
- If roads on the construction routes are closed in the case of an emergency, construction traffic would use the formal diversion routes put in place by emergency services where suitable; and
- Once deliveries have been made to the compound in Lime Down E, Solar PV equipment will be distributed around Lime Down E via tractor and trailer. No Articulated HGV vehicles will route beyond the proposed compound areas.

6.7 Booking System

- Suppliers and subcontractors are required to book delivery slots via a secure online portal or app before arriving on-site to manage arrivals

and departures. The system allows for real-time tracking, allowing site managers to see when a vehicle is approaching or if it is delayed. A log will be kept as part of the booking system. The intention of this procedure is to avoid instances of HGVs passing each other in opposite directions on the local roads surrounding the Site. The booking system will also be used as a means to monitor that drivers are using the appropriate routes.

6.8 Parking

- Advisory signs informing contractors and visitors that parking is not permitted on-street in the vicinity of the Site or on the Site access road. Contractors and visitors will be advised that parking facilities will be provided on-Site in advance of visiting the Site and that they should not park on-street.

6.9 Wheel Wash Facility

- A wheel washing facility will be provided at each access. This will be located at the end of each access road, ahead of the egress onto the local highway network;
- A visual inspection of vehicles will be undertaken before they depart the Site, to ensure that they are not carrying any residual debris onto the highway; and
- If required, a road sweeper will be provided for the area surrounding access to alleviate any residual debris generated during the construction phase, as required.

6.10 Noise Reduction and Air Quality

- When on Site and when not in use, vehicle engines will be switched off;
- Vehicles carrying material off-Site will be sheeted to prevent the spread of dust; and
- In dry conditions, areas near to the Site access will be sprayed with water supplied to prevent the spread of dust.

6.11 Site Security

- The Site will be secured at all times via a perimeter fence or temporary fencing. CCTV will be operational within the construction compound. All new access tracks will be secured by gates, which will be set back from the public highway. Where existing access tracks are used that also provide access to residential properties, appropriate security

measures will be put in place in consultation with the relevant property owner(s).

6.12 Road Condition Survey

6.12.1 A pre-construction road condition survey will be carried out on the local highway network via video two weeks before the construction phase commences. Interim surveys will be undertaken every 6 months during the Construction Phase, and a completion survey will be carried out in order to identify any additional defects that can reasonably be attributable to construction activities at the Site. Any identified highways defects or carriageway structural failures resulting from construction activities associated with the Site will be corrected to the satisfaction of the local highway authority either on the completion of the Construction Phase or, if required for safety reasons, during the Construction Phase; and

6.12.2 The extent of the survey will be agreed with the local highway authority prior to commencement and as part of the Final CTMPs. However, it is expected that this will comprise parts of the construction route on the following links:

Lime Down A-C

- Unnamed road between Fosse Way and Sherston: Circa 1.1km from the Fosse Way junction; and
- Unmettalled highway surfaces forming part of the construction route on Fosse Way.

Lime Down D

- Unnamed road between the roundabout junction with Wellington Place Road and Bradfield Cottages - circa 1.7km;
- Unnamed road between the Bradfield Cottages / The Street junction and the proposed secondary access point to Lime Down area D - circa 460m;
- Unmettalled highway surfaces forming part of the construction route, east of Hullavington crossroads; and
- Other links that form part of the proposed construction vehicle route include A Roads and B Roads and are already associated with significant numbers of HGV movements. The effect of HGVs associated only with the Site could not be reasonably be determined.

Lime Down E

- Unmetalled highway surfaces located on construction routes adjacent to Lime Down E.

6.13 Community Engagement

- The details of a dedicated CTMP Co-ordinator will be provided to the local highway authority in advance of any work being carried out;
- Details of the CTMP Co-ordinator will also be provided on a Site-board at the Site accesses. If anyone in the local community has any issues during the construction phase, the CTMP Co-ordinator will be available to discuss; and
- The community liaison group (as detailed in the **Outline CEMP [EN010168/APP/7.12]**) would be made aware of construction timings, the use of specific access points and of confirmed AIL movements.

6.14 Monitoring

6.14.1 The CTMP Co-ordinator will maintain contact with the community liaison group to ensure awareness of any issues raised by local highway users. Details of the Community Liaison Group are set out in the **Outline CEMP [EN010168/APP/7.12]**.

6.14.2 If complaints are received the CTMP Co-ordinator will record the incident using a database logging system. A receipt of the complaint will be emailed to the person making the complaint. The receipt will include details of the formal response and how the complaint can be escalated, if required.

6.14.3 The Co-ordinator will then investigate the incident and will discuss what actions need to occur with the Applicant and Site Manager.

6.14.4 To ensure public faith in the reporting system, the Co-ordinator will agree a response timetable as part of the final CTMP. The following suggested response times are suggested:

- Receipt of original complaint: Within 2 working days of the complaint being received;
- Investigation time: Within 3 working days of receipt of the complaint (assuming no requirement to involve / consult with third parties);
- Corrective Action Decision: Within 1 working day of the completion of the investigation (assuming no requirement to involve third parties); and
- Response: To be issued to the complainant within 2 working days of the Corrective Action Decision.

6.14.5 It is of the utmost importance that the public know that their complaint will be investigated, actioned and that they are informed of what actions are being taken.

6.14.6 The time taken to respond, the number of complaints raised and a review of the corrective actions will be a standing agenda item with the Community Liaison Group to ensure that the public can be assured that their issues are being considered and dealt with.

6.14.7 The process will be developed to align with the complaints process that will be prepared under the Stakeholder Communications Plan under Paragraph 2.14.1 of the **Outline CEMP [EN010168/APP/7.12]**.

7 Operational Traffic Management Plan

7.1.1 A Final OTMP shall also be prepared post-determination to cover planned replacement operations during the operational and maintenance phase.

7.1.2 During the operation and maintenance phase, there will be an ongoing replacement of defective panels and breakages etc. This is expected to be on an ad-hoc basis and will result in a non-material level of HGV trips on a day-to-day basis.

7.1.3 The planned replacement of all Solar PV Panels transformers and BESS Containers will occur once during the Scheme's lifespan. The Solar PV Panels are anticipated to be replaced on a field by field basis. Just the Solar PV Panels, transformers and BESS Containers will need replacing, with no activity relating to the mounting structures.

7.1.4 The anticipated number of HGV trips for replacement will be below the number of HGV trips associated with the construction phase. However, a Final OTMP in substantial accord with the measures set out in this Outline CTMP, will be approved by Wiltshire Council and South Gloucestershire Council, as the local planning and highway authorities, prior to replacement commencing

7.1.5 Further to the measures set out in Section 6, the Final OTMP should also include for the following

- Review all proposed routes and measures to ensure they remain suitable at the time of replacement activity; and
- Where practicable, vehicles bringing new replacement Solar PV Panels and BESS Containers to the Order Limits will also transport the replaced Solar PV Panels and BESS Containers out of the Order Limits.

8 References

Ref 1 The Traffic Signs Regulations and General Directions (2016): Available at: https://www.legislation.gov.uk/uksi/2016/362/contents [Accessed 27 July 2025]

Figures

Appendix A Access Drawings - Solar PV Sites

Appendix B Access Drawing - Cable Route Corridor

Appendix C Construction Worker Travel Plan

Introduction

This Construction Worker Travel Plan (CWTP) has been prepared on behalf of Lime Down Solar Park Limited (the 'Applicant') in relation to an application for a Development Consent Order (DCO) for Lime Down Solar Project (hereafter referred to as the 'Scheme') and supports the Outline Construction Traffic Management Plan. It has been prepared to encourage construction workers to travel to the Order Limits via sustainable modes of transport, where possible, during the construction phase of the Scheme.

Aims and Objectives

Travel planning presents the opportunity to raise awareness of the consequences of travel choices, the benefits of alternatives and the opportunity to minimise the impact of motorised travel on the environment. A Travel Plan can bring the following benefits:

- To the individual - through improved health, reduced stress and cost savings;
- To the community - by the developer demonstrating commitment to environmental priorities and setting an example to others; and
- To the environment - through improved local air quality with less noise, dirt and fumes, which can contribute to other national and global improvements.

The core aims of this CWMP are to:

- Set out the objectives of travel planning at the Order Limits;
- Set out information on the accessibility of the Order Limits by non-car modes of transport;
- Set out initiatives and measures to promote accessibility by non-car modes, including the proposed construction worker minibus arrangement; and
- Set out the management requirements of the Travel Plan.

The following key aims and objectives are identified:

- To reduce single occupancy car travel by construction workers;
- To increase car sharing and minibus use; and
- To increase knowledge of the public transport opportunities available to construction workers.

The remainder of this travel plan includes the following:

- Management Strategy; and

- Travel Plan Measures.

Management Strategy

Roles and Responsibilities

A Travel Plan Coordinator (TPC) will be to be appointed to oversee the implementation of this Travel Plan. The TPC will be responsible for overseeing the implementation of measures and ensuring the objectives set out in Chapter 1 are achieved.

The responsibilities of the TPC will comprise, but not necessarily be limited to, the following:

- Implement measures set out in the Travel Plan;
- Raise awareness of the Travel Plan; and
- Provide advice to construction workers regarding sustainable travel.

It is anticipated that the TPC will be the Construction Site Manager (CSM) or a member of the project management team.

Travel Plan Measures

A number of measures have been identified that will be implemented in order to help achieve the objectives of this Travel Plan. The main objective is to reduce single occupancy vehicle travel to the Order Limits by construction workers. A summary of the proposed measures is provided in **Table 7** below.

Table 7: Proposed Travel Plan Measures

Item	Measure	Responsibility
1	Establish car share scheme for construction workers, including a 'guaranteed lift home' policy (details below).	TPC
2	Arrange on-site facilities for workers, such as storage lockers for equipment.	Contractor
3	Provide a map with identified cycling routes to the Site on a noticeboard in communal areas and provision of secure cycle storage/parking for workers commuting by bike.	TPC
4	Provide bus timetable information and bus routes to the Site on a noticeboard in communal areas.	TPC
5	Provide emergency cycle repair kit on-site.	TPC
6	Provision of construction worker shuttlebus (details below).	Contractor
7	Encourage travel outside of highway network peak hours through designated shift patterns.	TPC
8	Encourage use of electric vehicles (EV) and provide information on closest available EV charging points in local area.	TPC
9	Appointment of Travel Plan Coordinator.	Project Manager

The measures outlined in **Table 7** will be continuously reviewed by the TPC to ensure they remain effective in encouraging travel to the Order Limits by non-car modes.

Car Share Scheme

There is potential for car sharing to also occur between construction workers, especially if they are travelling from the same origin place to the Order Limits.

The TPC will be responsible for determining which staff members may benefit from car sharing and form a car sharing group/register for workers. This will allow workers looking for a car share or driving to site can register and help join drivers with passengers.

The TPC will promote a car-sharing scheme throughout the construction program. The TPC would also make construction workers aware of existing car sharing schemes such as liftshare.com/uk.

In case of an emergency all car sharers will be eligible for a guaranteed lift home.

Construction Worker Shuttlebus

It is anticipated the majority of non-local construction workers will stay at local accommodation and be transported to Order Limits by shuttlebus. Shuttle buses will be used to transport non-local construction workers from their accommodation to the Order Limits. This can be used by local workforce as well. This aids to further reduce single occupancy vehicle travel to the Site, the appointed contractor and TPC will be responsible for organising a shuttlebus for construction workers.

Monitoring

The uptake of travel plan measures will be continuously monitored by the TPC. Additional measures will be provided as appropriate.

Appendix D Abnormal Indivisible Load Access Report

Introduction

This Abnormal Indivisible Loads (AIL) Access Report has been prepared on behalf of Lime Down Solar Park Ltd (the 'Applicant') in relation to an application for a Development Consent Order (DCO) for Lime Down Solar Park (hereafter referred to as the 'Scheme').

The Scheme is situated within the jurisdiction of Wiltshire Council and South Gloucestershire Council which act as the local planning authorities and local highway authorities.

The Scheme

The Scheme comprises a solar photovoltaic (PV) electricity generating station of over 50 megawatts (MW) and 'associated development' comprising up to 500 MW export capacity Battery Energy Storage System (BESS), grid connection infrastructure and other infrastructure integral to the construction, operation and maintenance, and decommissioning phases.

The main element of the Scheme comprises five Solar PV Sites that will accommodate the Solar PV Panels. These are referred to as:

- Lime Down A – 94 ha, located between the village of Sherston and the Ladywood Estate;
- Lime Down B – 70 ha, located to the west and north of Norton;
- Lime Down C – 241 ha, located either side of the Fosse Way, to the north of Grittleton;
- Lime Down D – 213 ha, located to the north of Hullavington; and
- Lime Down E – 131 ha, located to the south of Corston.

A BESS Area will be located within Lime Down D.

The electricity generated by the Scheme will be exported to the National Grid substation at Melksham via Grid Connection Cables sited within the defined Cable Route Corridor. These connections will also facilitate the import of electricity to be stored within the energy storage facilities at Lime Down D. The Cable Route Corridor will be approximately 22km in length and is directed across open countryside. It will require crossings of railways, watercourses, various utilities, Public Rights of Way (PRoW) and roads.

The Order Limits are shown in **ES Volume 2, Figure 1-2: The Order Limits [EN010168/APP/6.2]**.

A full overview of the Order Limits and the Scheme can be found in **ES Volume 1, Chapter 2: The Order Limits [EN010168/APP/6.1]** and **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1]**, respectively. Additional information on the Cable Route Corridor can be found in the **ES Volume 3, Appendix 3-2: Cable Route Construction Method Statement [EN010168/APP/6.3]**.

Definition of an Abnormal Indivisible Load and Special Types General Order

AIL movements will be required for the delivery of the transformers to the 132 kV Substations located in Lime Down A, C, D and E and 400 kV Substation located in Lime Down D. Cable drums will be delivered on a Cable Reel Trailer, which, for the purpose of this report has also been assumed to comprise AIL Deliveries.

The Department for Transport (DfT) state that an AIL refers to a load which cannot, without undue expense or risk of damage, be divided into two or more loads for the purpose of carriage on roads and which, owing to its dimensions or weight, cannot be carried on a vehicle which complies in all respects with the 'standard vehicle regulations'

As such, the DfT define a movement to be abnormal if the load and vehicle meets any of the following criteria:

- A weight of more than 44,000kg;
- An axle load of more than 10,000kg for a single non-driving axle and 11,500kg for a single driving axle;
- A width of more than 2.9 metres; and
- A rigid length of more than 18.65 metres.

Where dimensions exceed 6.1m in width, 30m in rigid length or 150 tonnes gross weight, Special Types General Order from National Highways (NH) is required.

Abnormal Indivisible Load Access Report

This document provides a summary of the Abnormal Indivisible Load (AIL) routes to access points within the Order Limits.

Consultation

The contents of this report have been discussed with National Highways, Wiltshire Council, South Gloucestershire Council and Gloucestershire County Council, as the local highway authorities in the area. It has also been discussed with other stakeholders such as Network Rail. In addition, a consultation webinar for members of the public has taken place.

Correspondence and agreements in principle are shown in the following appendices:

- Annex B – National Highways;

- Annex C – Wiltshire Council;
- Annex D – South Gloucestershire Council;
- Annex E – Gloucestershire County Council; and
- Annex F – Network Rail.

Report Structure

The remainder of this report is set out as follows:

- AIL Movements and Management;
- Overview of Routes to the Order Limits;
- Details of Routes to the Order Limits; and
- Summary.

AIL Movements and Management

This section summarises the number of AIL movements required for the construction of the Scheme, considerations of AIL movements, and management measures for AIL movements that will be employed.

Solar PV Sites

AIL vehicles will be required for the delivery of the transformers to the 132 kV Substations located in Lime Down A, C, D and E and 400 kV Substation located in Lime Down D. There will be one AIL delivery per transformer.

The AIL movements associated with the delivery of transformers to the Solar PV Sites and their access are summarised in **Table 8**. Access locations are presented in the wider Outline CTMP.

Table 8: Solar PV Sites – AIL Movements

Substation Location	Transformer Dimensions (Length/Width/Height)	Vehicle Type	Access	Frequency
Lime Down A	90-120 MVA 132-33 kV - Length: 7.7 m, - Width: 5.3 m - Height:4.9 m - Weight: 120 tonnes	16 Axle Girder Frame Abnormal Load Carrier	5	2
Lime Down B	No transformer deliveries			
Lime Down C	90-120MVA 132-33 kV - Length: 7.7 m, - Width: 5.3 m - Height:4.9 m -Weight: 120 tonnes	16 Axle Girder Frame Abnormal Load Carrier	19	2

Substation Location	Transformer Dimensions (Length/Width/Height)	Vehicle Type	Access	Frequency
Lime Down D (East)	240 MVA 400-132 kV - Length: 10 m, - Width: 3.8 m - Height – 4.7 m - Weight: 183 tonnes	16 Axle Girder Frame Abnormal Load Trailer with Two Tractors	20	5
Lime Down D (East)	90-120 MVA 132-33 kV - Length: 7.7 m, - Width: 5.3 m - Height: 4.9 m -Weight: 120 tonnes	16 Axle Girder Frame Abnormal Load Carrier	10	2
Lime Down E	90-120 MVA 132-33 kV - Length: 7.7 m, - Width: 5.3 m - Height: 4.9 m -Weight: 120 tonnes	16 Axle Girder Frame Abnormal Load Carrier	12, 15 and 18	2

It is also anticipated that they may be up to 10 AIL movements associated with cable delivery within the Solar PV Sites. However, the AIL vehicle is not anticipated to be as big as those required to deliver the transformers at approximately 26 m in length.

Transformers are assumed to have a design life of 30 years. Transformers may require replacement once during the lifetime of the Scheme, although replacement will only be carried out if required for performance or health and safety reasons.

Cable Route Corridor

Cable drums will be delivered on a Cable Reel Trailers. In comparison to the transformer deliveries, these will be delivered by smaller AIL vehicles or HGVs where practicable. It is estimated that the Cable Route may require around 130 cable drum deliveries over the length of the Cable Route Corridor. This means each AIL access route serving the Cable Route Corridor, could accommodate between 15 to 20 deliveries.

The Cable Reel Trailer and vehicle will get as close to the relevant access location as practicable. From here, the cable drum will be unloaded and towed along the haulage road to the appropriate location for installation. This will be managed through banksmen and/or traffic marshals.

Vehicle Types

There are two key vehicles that will transport the AILs to the Order Limits.

16 Axle Girder Frame Abnormal Load Carrier

The anticipated road transport configuration would require a 16-axle girder frame trailer for the delivery of the 132 kV transformers.

At present, two haulage contractors in the UK electricity supply sector operate girder frame trailers with sufficient capacity for the proposed 120-tonne units: Allelys Heavy Haulage Ltd and Collett & Sons Heavy Haulage. Both possess the necessary equipment and expertise to correctly position the transformer on its plinth.

The dimensions of the 16 Axle Girder Frame AIL Carrier are as follows:

- Overall Length 45.825 m;
- Overall Width 4.650 m;
- Overall Transport Height 4.800 m can be reduced to 4.600 m;
- Max Track Width 3.000 m;
- Lock to lock time 6.00 seconds; and
- Wall to Wall Turning Radius 18.640 m.

16 Axle Girder Frame Abnormal Load Carrier with Two Tractors

The anticipated road transport configuration would require a 16-axle girder frame trailer with two tractors for the delivery of the 400 kV transformers.

At present, two haulage contractors in the UK electricity supply sector operate girder frame trailers with sufficient capacity for the proposed 183-tonne units: Allelys Heavy Haulage Ltd and Collett & Sons Heavy Haulage. Both possess the necessary equipment and expertise to correctly position the transformer on its plinth.

The dimensions of the 16 Axle Girder Frame AIL Carrier are as follows:

- Overall Length 57.361 m;
- Overall Width 4.650 m;
- Overall Transport Height 4.800 m can be reduced to 4.600 m;
- Max Track Width 3.000 m; and
- Wall to Wall Turning Radius 18.640 m.

5 Axle Bed 5 Axle Draw Bar Trailer

Cable Reel Trailer used to transport the cable drums, measuring approximately 26 metres in length. However, for the purposes of this assessment it has been assumed that a 5 Axle Bed 5 Axle Draw Bar trailer will be used to deliver cable drums as a reasonable worst-case.

The dimensions of the 5 Axle Bed 5 Axle Draw Bar trailer are as follows:

- Overall Length 36.167 m;
- Overall Width 4.860 m;

- Overall Transport Height 4.800 m can be reduced to 4.600 m;
- Max Track Width 3.000 m; and
- Wall to Wall Turning Radius 22.943 m.

AIL Considerations

The general factors that have to be considered when assessing the suitability of road routes for the movement of abnormal loads are summarised below.

Headroom

Transporting the load is only possible if there is adequate headroom along the proposed route to accommodate its travel height. While major motorways and trunk roads in the UK typically provide a maximum headroom clearance of 5.03 metres (16'6"), this is not guaranteed. Any structures, such as bridges or gantries, with lower clearances will have their actual height clearly posted. To ensure safe passage, the UK electricity supply industry and plant manufacturers typically design for a maximum travelling height of 4.95 m (16'3"), providing a suitable safety margin.

When overhead obstructions such as telephone or local power distribution lines are present, it is often possible to either temporarily raise or underground them along relatively short routes, in coordination with the relevant utility providers. However, this becomes impractical over longer distances or where numerous lines are involved. In contrast, low bridges generally cannot be altered, though in some cases, steel gantries with bolted connections may be temporarily lifted to allow passage.

The Department for Transport (DfT) advises hauliers to notify Distribution Network Operators (DNO), British Telecom (Openreach), and any other companies with overhead service lines when planning movements with a travelling height exceeding 5.0 metres. This allows for necessary temporary or permanent adjustments to the infrastructure along the proposed route.

Structural Capability

The load-bearing capacity of roads is largely determined by axle loading rather than the total weight of the transported load. Therefore, the routes capacity must be evaluated based on the axle and wheel loads imposed by the combined gross weight of the load and transporter for each item. Key factors to consider include axle and wheel loadings, road surface strength, the impact on bridges, underground utilities, and travel speed. The tractor unit is typically assessed separately regarding its axle and wheel loads. Usually, the appointed haulage contractor provides indemnities to highway and bridge authorities to cover any potential damage caused during transport.

Underground services must also be taken into account when evaluating road capacity. When assessing the impact of weight on underground infrastructure, such as water pipes, sewers, and service ducts, load from individual wheels is typically the

focus. The safe load these services can bear depends on factors such as their age and condition, burial depth, and the strength of the road surface above them. All these considerations are essential when determining whether a road is suitable for transporting abnormal loads. This assessment is usually performed by the relevant authority or utility provider.

Regarding private site access roads, haulage contractors typically expect the client to confirm that these roads are designed to support the proposed loadings. If such confirmation is not available, further geotechnical investigations may be required.

A slow-moving abnormal load typically generates less impact force than a faster vehicle This helps to reduce the effects of the increased wheel loading associated with the abnormal load.

Width of the Highway

There may be no formal documentation specifying the width of a highway, and even if such records exist, they may not be definitive. What is more important is the actual physical condition on the ground. If the Highway Authority has maintained land adjacent to the paved road, this strongly suggests that the land is considered part of the highway. Public highway records should be reviewed to confirm this.

Over-Sail

Over-sailing is a common issue when transporting large components. The relevant legal principle is trespass, defined as the unauthorised interference with someone's possession of their home, garden, or other land interests. It's important to note that trespass is a civil matter, not a criminal offense. This means that trespassers usually cannot be prosecuted criminally but can be sued in civil court.

Property boundaries may be marked by physical features such as rivers, walls, or fences. However, the actual boundary line might be on either side of these features, along the centreline, or unrelated to them altogether. The primary reference for establishing property boundaries is the title deeds. Legally, property ownership extends vertically, from the subsoil beneath the land to the airspace above it.

In construction, over-sail issues are often addressed through an over-sail licence, which grants a landowner or developer the legal right to pass through another's airspace. For example, a crane's jib may swing into neighbouring airspace during operations. Without an over-sail licence, this could constitute trespass, potentially resulting in legal injunctions.

Guidance recommends that over-sail licences specify conditions such as permitted times of day or night, maximum over-sail heights, licence duration, and may include indemnities for any damage caused.

Negotiating agreements for any financial compensation related to the use of land owned by others or subject to third-party rights is essential. A reasonable approach

can help avoid costly legal disputes and reduce potential court costs, even if the other party is unwilling to negotiate.

Street Furniture

In some cases, the temporary removal and replacement of street furniture may be required to ensure the passage of the load.

If street furniture needs to be removed and replaced this work is typically managed under Temporary Traffic Regulation Orders (TTRO) and Street Works legislation. These tasks are usually, though not always, arranged by the haulage contractor. The requirements aim to ensure that supervisors and workers are qualified and that the work is performed to specified standards with proper traffic management in place. In some cases, the Highway Authority or local authority may require that their preferred contractors carry out the work.

Recovery of Maintenance Costs (Section 59 Agreements)

Section 59 of the Highways Act 1980 empowers the highway authority to charge a user of the highway for repair costs caused by carrying excessively heavy or unusual loads. This provision is commonly applied when heavy vehicles traveling to and from industrial sites or construction areas cause significant damage to the road, resulting in costly repairs for the Council. Under Section 59, the Council can recover these costs from the responsible party by charging the difference between the repair expenses and the normal road maintenance costs. Instead of waiting to be billed for these expenses, the Council and the third party may agree in advance under Section 59 for the third party to accept responsibility and pay a predetermined amount to cover the excessive repair costs.

Management of AIL Movements

All abnormal load movements will be co-ordinated by a haulage specialist. Traffic management will be in place to support the movement. The exact nature of the traffic management will be agreed with the local highway authority and police prior to the delivery being undertaken. However, it is likely to include the following procedures/measures:

- All appropriate notifications will be made to the local highway authority and local police force;
- The route will be planned and agreed with the local highway authority local police force;
- Stakeholders along the route will be notified of the date and time of the movement;
- Vehicles will be clearly marked with the appropriate plates and lighting;
- Vehicles will be escorted to the Order Limits;

- Rolling road closures will be used where necessary.

To ensure minimal impact upon on the local road network, AIL vehicle movements will be undertaken during off-peak times and delivered in convoy to minimise incidents of disruption. This will be subject to the agreement and instructions of the Local Planning and Highway Authorities and the Police.

Overview of Routes to the Order Limits

This section summarises the routes for AIL movements. The following sections provide more information on each individual route.

Avonmouth Port

It is expected that all AIL deliveries will arrive from Avonmouth Port. From here, deliveries will travel to either Junction 17 or 18 of the M4, with one route via Junction 15 of the M4.

The Port of Avonmouth is a well-established hub for transformer deliveries, and no significant access limitations are anticipated. Multiple shipment methods are available to support this activity.

Records indicate that, in 2006, a 255-tonne transformer was transported to Minety Substation using a 16-axle girder frame trailer under a Special Order movement. A similar movement occurred again in 2016. Additionally, reactors weighing approximately 131 tonnes (net) were transported from Avonmouth via the M4 as recently as 2022 and 2023.

The M4 motorway has also been used for other heavy load deliveries, including the transport of a circa 170-tonne transformer to Melksham in 2013. The M4 has further supported deliveries of even heavier equipment traveling eastward to Didcot Substation and Power Station, beyond the weights considered in this project.

One historical constraint on this route has been the Hambrook Viaduct, located on the M4 between Junctions 19 and 18. Due to its structural limitations, certain Abnormal Indivisible Loads (AILs) have previously been diverted from the M4, instead taking the Bristol Ring Road (A4174), A420, and A46 to rejoin the M4 at Junction 18.

Solar PV Sites

The AIL routes to the relevant substations within each of the Solar PV Sites from the M4 are as follows:

- **Solar PV Route 1 - Lime Down A and C (Primary)**: M4 J18 → B4040 → B4039 → Unnamed rural road between Yatton Keynell and Grittleton → Alderton Road → Fosse Way → Site access;

- **Solar PV Route 2 - Lime Down A and C (Alternative)**: M4 J17 → A350 → A420 → B4039 → Unnamed rural road between Yatton Keynell and Grittleton → Alderton Road → Fosse Way → Site access;
- **Solar PV Route 3 - Lime Down D**: M4 J17 → A429 → Road east of Hullavington → Bradfield Cottages → Site access; and
- **Solar PV Route 4 - Lime Down D and E**: M4 J15 → A419 → A429 → Site access.

The AIL routes for the Solar PV Sites are shown in **ES Volume 2, Figure 13-5: Abnormal Indivisible Load (AIL) Routes: Solar PV Sites [EN010168/APP/6.2]**.

Cable Route Corridor

The AIL routes to the relevant Cable Route Corridor accesses from the M4 are as follows:

- **Cable AIL Route 1 (Similar to Lime Down A and C Primary)**: M4 J18 → B4040 → B4039 → Unnamed rural road between Yatton Keynell and Grittleton → Site access;
- **Cable AIL Route 2**: M4 J17 → A350 → A420 → B4039 → Site access;
- **Cable AIL Route 3**: M4 J17 → A350 → A420 → Site access;
- **Cable AIL Route 4**: M4 J17 → A350 → A4→ Site access;
- **Cable AIL Route 5**: M4 J17 → A350 → Corsham Road → Site access;
- **Cable AIL Route 6**: M4 J17 → A350 → A4 → B3109 → A365 → B3353 → Site access;
- **Cable AIL Route 7**: M4 J17 → A350 → A4 → B3109 → A365 → B3353 → Westlands Lane → Site access;
- **Cable AIL Route 8 (Similar to Lime Down A and C Primary)**: M4 J18 → B4040 → B4039 → Unnamed rural road between Yatton Keynell and Grittleton → Alderton Road → Fosse Way → Site access;
- **Cable AIL Route 9 (as per Lime Down D)**: M4 J17 → A429 → Road east of Hullavington → Bradfield Cottages → Site access; and
- **Cable AIL Route 10 (as per Lime Down D and E)**: M4 J15 → A419 → A429 → Site access.

The AIL routes for the Cable Route Corridor are shown in **ES Volume 2, Figure 13-6: Abnormal Indivisible Load (AIL) Routes: Cable Route Corridor [EN010168/APP/6.2]**.

Details of Routes to the Order Limits

Solar PV Route 1

As shown in **ES Volume 2, Figure 13-5: Abnormal Indivisible Load (AIL) Routes: Solar PV Sites [EN010168/APP/6.2]**, Solar PV Route 1 is as follows:

- M4 J18 → B4040 → B4039 → Unnamed rural road between Yatton Keynell and Grittleton → Alderton Road → Fosse Way → Site access.

A summary of the key areas of interest along the route for AIL movement is set out in **Table 9**. The locations of the reference points are shown in the swept path analysis drawings in Appendix A of the Outline CTMP.

An alternative route would take vehicles from the A46 to the B4039 via Acton Turville Road and Tormarton Road. Reference 1 in **Table 9** refers to the turning from the A46 into Acton Turville Road and Reference 5 refers, in part, to the turning out of Tormarton Road, should this route ever be followed.

Table 9: Solar PV Route 1

Reference	Image*	Description
1		Alternative route via Acton Turville Road and Tormarton Road. Vehicle travels away from camera and turns right. Swept Path Analysis is shown in **Drawing SP14 Rev-A** Minor temporary road widening at the junction and temporary removal of keep left bollards on traffic island is required should this route be followed.
2		Vehicle travels away from the camera, right turn using the one-way street in contraflow to join B4040. Swept Path Analysis is shown in **Drawing SP16 Rev-A** Temporary minor road widening at the junction, temporary removal of give-way and no-entry signage, and trimming of existing hedge/tree branches.

Reference	Image*	Description
3		Vehicle travels away from the camera on B4040, road bends to the right. Swept Path Analysis is shown in **Drawing SP17.**
4		Vehicle travels away from the camera on B4040, road bends to the left, confirmatory. Swept Path Analysis is shown in **Drawing SP18.**
5		Vehicle travelling away from the camera, large footway for potential oversail by the Fox and the Hound Pub, and wide junction opening at B4039. Swept Path Analysis is shown in **Drawing SP19.** **Drawing SP15** shows the vehicle turning right out of Tormarton Road, should this alternative route be followed.
6		Structure on B4039 over M4. Agreement in Principle of route with Wiltshire Council and National Highways.

Reference	Image*	Description
7		Vehicle travels away from the camera and turns left. Swept Path Analysis is shown in **Drawing SP20 Rev-A.** Temporary minor road widening at the junction and trimming of existing hedge/tree branches are required to allow the abnormal load vehicle to turn at the junction safely.
8		Vehicle travels away from the camera under bridge under the M4. Negotiable within available headroom.
9		Crossroads at Grittleton, vehicle travelling away from camera, and turns left into Alderton Road. Swept Path Analysis is shown in **Drawing SP21 Rev-A**. Temporary removal of stop sign required due to vehicle over sail of verge.
10		Vehicle travels away from the camera on Alderton Road. Swept Path Analysis is shown in **Drawing SP23 Rev A**. Temporary minor road widening at the bend required, as well as temporary removal of chevron signage, and trimming of existing hedge and other vegetation

Reference	Image*	Description
11		Vehicle travels away from the camera on Alderton Road/Fosse Way. Vegetation pruning possibly required. Swept Path Analysis is shown in **Drawing SP24 Rev A.**
12		Structure on Fosse Way over railway line. Agreement in Principle of route with Wiltshire Council.
13		Vehicle travels away from the camera on Fosse Way turning left towards Sherston. Swept Path Analysis is shown in **Drawing SP25 Rev-A**. Temporary minor road widening at the junction and trimming of existing tree branches

*Images taken from Google Street View and confirmed via a site visit

Based on the review, the following highway improvements have been identified for this route:

- A46 Bath Road/Acton Turville Road Junction, Tormarton (Reference 1) – Minor temporary road widening at the junction and temporary removal of keep left bollards on traffic island (it is assumed that the traffic island is over-runnable and will remain in place).
- A46 Bath Road/B4040 Junction, Old Sodbury (Reference 2) – Temporary minor road widening at the junction, temporary removal of give-way and no-entry signage, and trimming of existing hedge/tree branches.

- B4039 At the Salutation Inn, Castle Coomb (Reference 7) – Temporary minor road widening at the junction, and trimming of existing hedge/tree branches. These works are required to allow the abnormal load vehicle to turn at the junction safely.
- Alderton Road/The Street Junction, Grittleton (Reference 9) – Temporary removal of stop sign due to vehicle over-sail of verge.
- Fosse Way/Alderton Road, North of Grittleton (References 10 and 11) – Temporary minor road widening at the bend, temporary removal of chevron signage, and trimming of existing hedge and other vegetation.
- Fosse Way Junction (Reference 13) – Temporary minor road widening at the junction and trimming of existing tree branches.

Solar PV Route 2

As shown in **ES Volume 2, Figure 13-5: Abnormal Indivisible Load (AIL) Routes: Solar PV Sites [EN010168/APP/6.2]**, Solar PV Route 2 is as follows:

- M4 J17 → A350 → A420 → B4039 → Unnamed rural road between Yatton Keynell and Grittleton → Alderton Road → Fosse Way → Site access.

A summary of the key areas of interest along the route for AIL movement is set out in **Table 10**. The locations of the reference points are shown in the Swept Path Analysis Drawings in Appendix A of the Outline CTMP.

No points of interest are observed from the M4 J17, along the A350 or along the A420. The first point of interest is at the A420/B4039 junction.

Table 10: Solar PV Route 2

Reference	Image*	Description
14		Vehicle travels away from the camera, right turn onto B4039. Swept Path Analysis is shown in **Drawing SP29**.

Reference	Image*	Description
15		Vehicle travels away from the camera, around bend in the road. Swept Path Analysis is shown in **Drawing SP30**.
16		Structure over M4. Agreement in Principle of route with Wiltshire Council and National Highways.
9, 10, 11, 13	See references 9, 10, 11 and 13 in Section 1.4 (Solar PV Route 1)	

*Images taken from Google Street View and confirmed via a site visit

Based on the review, no specific highway improvements have been identified beyond what is set out for References 9, 10, 11 and 13 as set out in Section 1.4 (Solar PV Route 1).

Solar PV Route 3

As shown in **ES Volume 2, Figure 13-5: Abnormal Indivisible Load (AIL) Routes: Solar PV Sites [EN010168/APP/6.2]**, Solar PV Route 3 is as follows:

- M4 J17 → A429 → Road east of Hullavington → Bradfield Cottages → Site access.

A summary of the key areas of interest along the route for AIL movement is set out in **Table 11**. The locations of the reference points are shown in the Swept Path Analysis Drawings in Appendix A of the Outline CTMP. Just two points of interest are identified.

Table 11: Solar PV Route 3

Reference	Image*	Description
17		Vehicle travels away from the camera, around bend in the road. Swept Path Analysis is shown in **Drawing SP33**.
18		Vehicle travels away from the camera under bridge under railway. Negotiable within available headroom.

*Images taken from Google Street View and confirmed via a site visit

Based on the review, no specific highway improvements have been identified.

Solar PV Route 4

As shown in **ES Volume 2, Figure 13-5: Abnormal Indivisible Load (AIL) Routes: Solar PV Sites [EN010168/APP/6.2]**, Solar PV Route 4 is as follows:

- M4 J15 → A419 → A429 → Site access.

A summary of the key areas of interest along the route for AIL movement is set out in **Table 12**. The locations of the reference points are shown in the Swept Path Analysis Drawings in Appendix A of the Outline CTMP.

Table 12: Solar PV Route 4

Reference	Image*	Description
19		Structure over Day House Lane. Agreement in principle with National Highways.
20		Structure over Marlborough Road. Agreement in principle with National Highways.
21		Vehicle travels away from the camera under Cole Overbridge. Negotiable within available headroom.
22		Structure over White Hart Roundabout and Railway Line. Agreement in principle with National Highways.

Reference	Image*	Description
23		Structure over Highworth Road. Agreement in principle with National Highways.
24		Structure over William Morris Way. Agreement in principle with National Highways.
25		Structure over Seven Bridges Bridge. Agreement in principle with National Highways and Wiltshire Council.
26		Vehicle travels away from the camera under bridge at Calcutt Street junction. Negotiable within available headroom.

Reference	Image*	Description
27		Structure over River Thames. Agreement in principle with National Highways and Wiltshire Council.
28		Structure over underpass. To be confirmed through discussions with Gloucestershire County Council.
29		Structure over underpass. To be confirmed through discussions with Gloucestershire County Council.
30		Structure over underpass. To be confirmed through discussions with Gloucestershire County Council.

Reference	Image*	Description
31		Vehicle travels away from the camera over roundabout. Swept Path Analysis is shown in **Drawing SP26.**
32		Vehicle travels away from the camera and turns left to continue on A429. Swept Path Analysis is shown in **Drawing SP27**.
33		Structure over watercourse. To be confirmed through discussions with Gloucestershire County
34		Structure over railway. To be confirmed through discussions with Gloucestershire County and Network Rail.

Reference	Image*	Description
35		Structure over watercourse. Agreement in Principle with Wiltshire Council.
36		Structure over watercourse. Agreement in Principle with Wiltshire Council.
37		Vehicle travels away from the camera over roundabout. Swept Path Analysis is shown in **Drawing SP28 Rev-A**. Temporary minor road widening required, including temporary removal of 2no. chevron/turn left sign assemblies.
38		Structure over River Avon. Agreement in Principle with Wiltshire Council.

Reference	Image*	Description
39		Structure over Gauze Brook. Agreement in Principle with Wiltshire Council.

*Images taken from Google Street View and confirmed via a site visit

Based on the review, the following highway improvements have been identified for this route:

- A429 Crudwell Road/B4014 Roundabout, Malmesbury (Reference 37) – Temporary minor road widening, temporary removal of 2no. chevron/turn left sign assemblies.

Cable Routes

The Cable AIL Routes are shown in **ES Volume 2, Figure 13-6: Abnormal Indivisible Load (AIL) Routes: Cable Route Corridor [EN010168/APP/6.2]**.

As set out in Section 2, a Cable Reel Trailer will be used to transport the cable drums. These vehicles are 26m in length. Whilst still considered an AIL movement, the vehicles are considerably smaller than those used to transport substation equipment, as set out for the Solar PV Routes.

It should also be noted that some of the routes used for the Cable AILs are the same as those for the Solar PV Routes.

A summary of the key areas of interest along the Cable AIL Routes are set out in **Table 13**. The locations of the reference points are shown in the Swept Path Analysis Drawings in Appendix A of the Outline CTMP.

Table 13: Cable AIL Routes

Reference	Image*	Description
Cable AIL Route 1		
1-9	See reference 1-9 in Section 1.4 (Solar PV Route 1)	
40		Vehicle travels away from the camera on The Street. Swept Path Analysis is shown in **Drawing SP22**.
Cable AIL Route 2		
No points of interest identified		
Cable AIL Route 3		
No points of interest identified		
Cable AIL Route 4		
No points of interest identified		
Cable AIL Route 5		
41		Vehicle travels away from the camera on A350 and turns right onto Corsham Road. Swept Path Analysis is shown in **Drawing SP11**. Temporary removal of traffic signals will be required. In addition, keep left bollards on traffic islands and 1no. street lighting column to be temporarily removed. These works are required to allow the AIL vehicle to turn at the junction safely.
Cable AIL Route 6		

Reference	Image*	Description
42		Vehicle travels away from the camera on B3109 and turns right onto A365. Swept Path Analysis is shown in **Drawing SP13.** Temporary removal of traffic signals will be required. In addition, keep left bollards on traffic islands and 1no. signage board located on traffic island will also need to be removed.
Cable AIL Route 7		
43	See reference 42 (Cable AIL Route 6)	
Cable AIL Route 8		
1-13	See reference 1-12 in Section 1.4 (Solar PV Route 1)	
Cable AIL Route 9		
18-19	See reference 17-18 in Section 1.6 (Solar PV Route 3)	
Cable AIL Route 10		
20-40	See reference 19-39 in Section 1.7 (Solar PV Route 4)	

*Images taken from Google Street View and confirmed via a site visit

Based on the review, the following highway improvements have been identified for this route:

- A350/Corsham Road Junction, Lacock (Reference 41) – Temporary removal of traffic signals, keep left bollards on traffic islands and 1no. street lighting column to be temporarily removed (it is assumed that the traffic islands are over-runable and will remain in place). These works are required to allow the AIL vehicle to turn at the junction safely; and
- A365 Devizes Road/B3109 Bradford Road, Box Fiveways Junction (Reference 42) – Temporary removal of traffic signals, keep left bollards on traffic islands and 1no. signage board located on traffic island (it is assumed that the traffic islands are over-runable and will remain in place).

In addition, highway improvements identified for Solar PV Routes 1 and 4 will need to be completed.

Summary

This section provides a summary of the Abnormal Indivisible Load (AIL) routes to access points within the Order Limits.

AIL movements will be required for the delivery of the transformers to the 132 kV Substations located in Lime Down A, C, D and E and 400 kV Substation located in

Lime Down D. Cable drums will be delivered on a Cable Reel Trailer, which also constitutes an AIL Delivery.

Four AIL routes to the Solar PV Sites are identified for the delivery of substation equipment. In addition, 10 AIL routes are identified for the cable route corridor, and the delivery of cable drums.

Areas where highway improvement works are required for the AIL movement have been identified. The Applicant will work with the appointed haulage contractor and the local highway authority to deliver these works.

The Applicant will work with the appointed haulage contractor and the local highway authority to confirm the appropriate means to pass over structures along the routes.

In addition, the Applicant will work with the appointed haulage contractor and the local highway authority to confirm the appropriate management measures that will be in place during the AIL deliveries.

Figures

Annex A Drawings

Annex B Correspondence with National Highways

Annex C Correspondence with Wiltshire Council

Annex D Correspondence with South Gloucestershire Council

Annex E Correspondence with Gloucestershire County Council

Annex F Correspondence with Network Rail