Lime Down
Solar Park

Highways Technical Note in Response to Appendix A of the SLD Deadline 4 Submission

August 2026

Revision 1

Planning Inspectorate Reference: EN010168

Document Reference: EXAM/9.64

The Infrastructure Planning (Examination Procedure) Rules 2010

List of Contents

1 Introduction

1.1.1 This Technical Note (TN) has been prepared by Transport Planning Associates (TPA) to address matters raised in Appendix A of the '**Stop Lime Down Deadline 4 Comments [REP4-132]**.

1.1.2 Appendix A of the '**Stop Lime Down Deadline 4 Comments' [REP4-132].** provides Stop Lime Down's revised assessment of HGV trip generation associated with the proposed Solar Farm and BESS, following the discussion at ISH3 on 2 July 2026, and Action Point 6 in **[EV9-010]**.

1.1.3 As requested in TT2.1 of the Examining Authority's Second Written Questions **[PD-014]** this TN provides the Applicant's version of the numbers included in Stop Lime Down's 'Assessment of Construction Traffic Movements' and 'Flow Diagrams' in pages 140 to 143 of **[REP4-132],** using, as far as possible, the exact same format and presentation as Stop Lime Down in those pages so that direct comparison can be made.

1.1.4 This TN also addresses outstanding ISH3 Action Point 12 **[EV9-010]**, which required a full response to the points raised by Wiltshire Council and Stop Lime and Table 2 of Stop Lime Down's **Written Representation, Appendix D [REP1-172],** which compares the ratios of HGV deliveries to the solar array areas for five other solar projects with the applicant's stated HGV delivery numbers for solar panels and mounting structures for Lime Down.

2 Response to Table 2 of Stop Lime Down's Written Representation, Appendix D [REP1-172]

2.1.1 As requested in TT2.1 of the Examining Authority's Second Written Questions **[PD-014]**, this section addresses outstanding ISH3 Action Point 12 **[EV9-010]**, which requires a response to Table 2 of Stop Lime Down's **Written Representation, Appendix D [REP1-172],** which compares the ratios of HGV deliveries to the solar array areas for five other solar projects with the applicant's stated HGV delivery numbers for solar panels and mounting structures for Lime Down.

2.1.2 For clarity, Table 2 of Stop Lime Down's **Written Representation, Appendix D [REP1-172]** is shown as follows:

Table 2: Ratios of HGV Deliveries to Solar Array Areas

Site	Works No.1 Area/ha	HGV Deliveries*	Ratio (HGVs/ha)
West Burton**	734	3,280	4.47
Botley West	839	7,423	8.85
Cottam**	897	4,320	4.81
Green Hill**	1,157	2,817	2.43**
Heckington Fen	292	2,400	8.22
Average			**5.76**
Lime Down	748	1,740	2.33

* includes both solar panels and mounting structures

** Green Hill, West Burton and Cottam are Island Green Power schemes as is Lime Down

2.1.3 When providing a comparison with other schemes, it is important that variables being compared are consistent. Many of the Works 1 areas provided in Table 2 of Stop Lime Down's **Written Representation, Appendix D [REP1-172]** may or may not include large areas not covered by solar panels, including areas between parcels, including access tracks, habitat areas, drainage, landscaping and infrastructure, which can vary considerably from scheme to scheme.

2.1.4 To provide a genuine like-for-like comparison, the Applicant has obtained the area for the 'Works No. 1 - Solar PV generating station areas' (excluding areas of only Works No. 1(d) electrical and communications cabling) for the Lime Down scheme and compared it against the other schemes put forward by IGP. Unfortunately, the Applicant does not have access to the relevant data for this exercise to be undertaken for Botley West and Heckington Fen. The 'Works No.1 – Solar PV generating station areas' are shown by the solid blue areas on the **Works Plan [REP3-004]**.

2.1.5 It should also be noted that trip calculations were not broken down into such detail on other IGP schemes, and the trip numbers of solar panels and mounting structures would have included trips associated with waste packaging etc. The HGV movements related to waste packaging presented in **Annex E** of **ES Volume 3, Appendix 13-1: Transport Assessment [REP4-037]** have therefore been added to the HGV movements for Lime Down to provide a fair comparison.

2.1.6 In accordance with the known 'Works No.1 – Solar PV generating areas' the ratio of Solar PV deliveries to solar array areas are presented in **Table 2-1**.

Table 2-1 Ratios of HGVs to Solar Array Areas – Applicants Calculations

Scheme	Work No.1 Area - Solar PV generating station areas (hectares)	HGVs*	HGVs per hectare
Lime Down	385.3	1,970	5.1
Green Hill	607.1	2,997	4.9
Cottam	897.4	4,320	4.8
West Burton	734.0	3,280	4.5

*includes for solar panels, mounting structures and waste packaging

2.1.7 The data presented in **Table 2-1** represents a consistency in the number of HGVs per hectare for the 'Works No.1 – Solar PV generating areas' between the schemes, with Lime Down generating approximately 5.1 HGVs per hectare. In comparison with the figures provided by Stop Lime Down, which have used the areas of the Solar PV Sites from ES Chapter 3: The Scheme with no adjustment for areas of non-solar development such as access tracks and habitat mitigation areas, it is concluded that **Table 3-1** presents the most reliable like-for-like comparison.

3 Response to Stop Lime Down Deadline 4 Comments – Appendix A

3.1 Review of Trip Generation Calculations

3.1.1 As requested in TT2.1 of the Examining Authority's Second Written Questions **[PD-014]**, **Table 2-1**, summarises the Applicant's version of the numbers included in Stop Lime Down's 'Assessment of Construction Traffic Movements' in **[REP4-132],** using, as far as possible, the exact same format and presentation as Stop Lime Down for comparison purposes.

3.1.2 Where possible, reasonable worst case assumptions have been applied and, where required, the Applicant has provided evidence to support the calculations.

3.1.3 **Table 3-1** accompanies the summary spreadsheet calculation presented in **Appendix A** of this TN and two link flow diagrams provided in **Appendix B**. The first link flow diagram shows changes in peak daily light and HGV vehicle flows on key links and the second shows the percentage changes in daily HGV flows when the average + 50% approach is applied to account for peak day trips. The flow diagrams include cable route HGVs allowing for the fact that only 4 cable route access points are expected to be operational at any one time.

3.1.4 It should be noted that unlike the Stop Lime Down calculations, trips for **Lime Down D** have been split between the access points to the western and eastern sections of the site, as proposed.

Table 3-1 Construction HGV Trip Generation: Revised Assumptions (Solar PV Sites

Item	Allowance in Revised Trip Generation Calculation	Notes
Number of Solar Panels	842,500 panels	In accordance with the **Works Plan [REP3-004],** the Works No. 1 - Solar PV generating station areas total 385.3ha. In accordance with this area, a maximum total of 842,500 panels, has been derived from an indicative high density layouts based on a 3P fixed panel layout. This would result in a density of 2,186 panels per hectare (885 per acre). When assuming outputs of 640W per panel currently being used on other IGP

Item	Allowance in Revised Trip Generation Calculation	Notes
		schemes (including West Burton), this would result in 1.76 acres per MW, which is more intensive than the suggested range of 2-4 MW per acre set out in EN-3. It is also noted that paragraph 2.10.17 of EN-3 states that densities will '*vary significantly depending on the site, with some being larger and some being smaller. This is also expected to change over time as the technology continues to evolve to become more efficient'*. The trip generation calculations for solar panels remain broadly unchanged from calculations set out in **Annex E** of **ES Volume 3, Appendix 13-1: Transport Assessment [REP4-037]** based on the delivery of 720 panels per HGV as specified below.
Number of panels per HGV	720 panels	The delivery of 720 panels per High Cube 40ft container has been calculated. This has been confirmed by the manufacturer/supplier. To provide certainty, the requirement to deliver panels by 40ft High Cube container, where required, has been included in the latest Outline CTMP submitted at Deadline 5. Case Basis: REASONABLE WORST CASE (given commitment to high cube containers in Outline CTMP to secure a maximum of 1,200 deliveries for the panels)
Mounting Structures	51.2% of panel HGVs	In **Table 2** of **Appendix A of Stop Lime Down's Deadline 4 Comments [REP4-132]** it is suggested that the number of HGVs required to transport mounting structures would constitute 73% of the

Item	Allowance in Revised Trip Generation Calculation	Notes
		number required to transport solar panels. This is based on ratios for Botley West, Green Hill and Heckington Fen. Further to the Applicants knowledge of Green Hill, the number provided for mounting structures were not broken down in as much detail and included other elements such as waste and packaging, which have been accounted elsewhere in calculations for Lime Down Solar Park. The Applicant has obtained further detail on mounting structures from the manufacturer/supplier which confirms that mounting structures for 0.9-1.1MW of 640W solar panels can be transported per standard articulated flatbed. Assuming a worst-case of 0.9MW, this results in a total of 599 HGV deliveries. The resulting uplift in HGV trips associated with mounting structures have been updated in the trip generation calculations. Case Basis: REASONABLE WORST CASE
Note on solar panel and mounting structure HGV trip generation		The approach to calculating the number of HGVs associated with panels and mounting structures set out in **Appendix A**, leads to an average of 4.6 HGVs/ha of Works 1- Solar PV generating station areas, which is still in accordance with the averages for Green Hill, Cottam and West Burton set out in **Table 2-1**.
Concrete Footings	104 HGVs	It has been identified that within the Works 1 areas, approximately 16.03 hectares is potentially archaeologically sensitive. Based on initial layouts it has been calculated that a total of 2,776

Item	Allowance in Revised Trip Generation Calculation	Notes
		concrete footings could be required within these areas. The Applicant has confirmed with suppliers () that a worst-case assumption would be: • 1000kg concrete on each rear upright • 500 kg on each front upright This would result in a total of 2,082 tonnes for concrete footings. There is a likelihood that solar panels will not be placed on the archaeologically sensitive areas. This therefore presents a worst case. The resulting HGV trips associated with concrete footings have been added to the trip generation calculations. Case Basis: REASONABLE WORST CASE
Waste (Packaging)	529 HGVs	This sets out the HGVs associated with the total volumes of waste (packaging) set out in **Table 3** of the **Outline Waste Management Chapter** submitted at Deadline 5**.** This includes waste associated with solar panel and mounting structure packaging, which has been updated to account for an uplift to 842,500 panels based on a 3P layout. A compactor will be provided on site to increase weight per vehicle of waste transported from site. This would allow tipper lorries to remove 11.1 tonnes loads or 20m3 of compacted waste. The resulting uplift in HGV trips associated with waste have been

Item	Allowance in Revised Trip Generation Calculation	Notes
		updated in the trip generation calculations. Case Basis: REASONABLE WORST CASE (given commitment to compactors in Outline CTMP)
General Access Tracks	3,718 HGVs	This is based on a worst case for the need for 28.1km of general access tracks with a width of 3.5 metres, widening to 6.0 metres at passing places. The track would also need to be widened on bends. The Applicant assumes that tracks would be constructed with 0.3m of compacted aggregate. The Applicant now includes a 5% widening allowance as per **Table 2** of **Appendix A of Stop Lime Downs Deadline 4 Comments [REP4-132].** This has been added to the trip generation calculations. Case Basis: REASONABLE WORST CASE
BESS/400kV Access Track	442 HGVs	The access track required to serve the 400kV Substation and BESS would be 0.9km in length. This will be designed to accommodate AIL vehicles delivering transformers to a 400kV substation. The access road will therefore be 6.0 metres wide, widening at bends with a compacted construction depth of 0.65 metres. There would be no requirement for passing places given the infrequency of movements. The Applicant now includes a 5% widening allowance as per **Table 2** of **Appendix A of Stop Lime Downs**

Item	**Allowance in Revised Trip Generation Calculation**	**Notes**
		Deadline 4 Comments [REP4-132], which has been added to the trip generation calculations. Case Basis: REASONABLE WORST CASE
132kV Access Tracks	676 HGVs	The access track required to serve the 132kV substations total 2.9km in length. This will be designed to accommodate AIL vehicles delivering transformers to a 132kV substation. Further information on the design parameters for 132kV Access tracks is now provided in the updated **ES Volume 3, Appendix 3-3: Illustrative Drawings** submitted at Deadline 5. This is in accordance with guidance from UKPN for access requirements to 132kV substations. The access road will therefore be 4.5 metres wide, widening at bends, with a compacted construction depth of 0.41 metres. The Applicant also includes a 5% widening allowance which has been added to the trip generation calculations. Case Basis: REASONABLE WORST CASE
Compound Surfacing	1,080 HGVs per compound	Further to **Table 2** of **Appendix A of Stop Lime Downs Deadline 4 Comments [REP4-132**], it has been agreed that the aggregate required for compounds will be 50m x 60m metres with a depth of 0.3 metres. The Applicant maintains that aggregate used for the compounds will remain on site as per Applicant's Response to SLD's Written Representation **[REP3-133]**). This will either be used to repair

Item	Allowance in Revised Trip Generation Calculation	Notes
		access tracks following construction, stored on site or in the case of Lime Down A and D, used within the proposed 132kV substations. The resulting uplift in HGV trips associated with waste have been updated in the trip generation calculations. These calculations assume the use of ten compounds, as shown on the Works Plans and as follows: • Lime Down A – One compound (south of road towards Sherston) • Lime Down B – One compound (north of Fosse Way) • Lime Down C – Two compounds (one either side of the Fosse Way) • Lime Down D – Three compounds (one either side of Bradfield Cottages and one north of A429) • Lime Down E – Two compounds (one north of railway line and one south of railway line) • One potential further compound in the vicinity of the BESS. Case Basis: REASONABLE WORST CASE
Compounds (Other)	1,252 HGVs (two per week per compound).	The Applicant accepts that other structures that will be associated with compounds include office, welfare, water tank, fuel tank, fencing, security, compactor, generator and skips. Regular HGV movements would be

Item	Allowance in Revised Trip Generation Calculation	Notes
		associated with water and fuel delivery, waste removal (foul water, chemicals solvents and oils) and the transport and movement of equipment and machinery. An allowance of two HGVs per compound per week over the construction phase for each Solar PV site is assumed. The trip generation calculations for other compound trips have been increased in comparison with those assumed in general trips set out in **Annex E** of **ES Volume 3, Appendix 13-1: Transport Assessment [REP4-037].** Case Basis: REASONABLE WORST CASE
Spoil	10% of excavated spoil taken off site. 721 HGVs	The volume of material is derived directly from the volumes of material used as a worst case for access roads, compounds, foundations of substations and the BESS. This amounts to 94,589m³. In accordance with the Applicant's Response to SLD's Written Representation **[REP3-133]**), the Applicant has included an allowance for 10% of spoil to be taken off site. The remaining spoil would be stored on site or used for bunds within the Scheme. The trip generation calculations have been updated to reflect the anticipated volume of spoil. Case Basis: REASONABLE WORST CASE
33kV Conversion Units	166 HGVs	The Applicant now allows for 166 conversion units. These have been added to the trip generation calculations.

Item	Allowance in Revised Trip Generation Calculation	Notes
		As confirmed by the supplier (See), each Inverter/Transformer powerbock (4.4MVA) will comprise of a 20ft, 20 tonnes container (6.058m Length x 2.438m Width x *2.896m Height). Each unit will require one HGV delivery. Case Basis: REASONABLE WORST CASE (based on supplier information)
Conversion Unit Foundations	701 HGVs	Each conversion unit would sit on a concrete slab and a levelling layer of aggregate. As set out in ES Volume 1, Chapter 3, The Scheme [APP-055] It has been assumed that each unit would site on a 6.0m x 16.0m slab and the total depth of foundations would be 0.4m split between concrete and a levelling layer of aggregate. Trips associated with Conversion Unit foundations have been added to the trip generation calculations. Given the size of proposed 33kV conversion units set out above, the assumed area of the foundations is an absolute worst-case assumption as they are likely to be smaller.

Item	Allowance in Revised Trip Generation Calculation	Notes
132kV Substations	205 HGVs per 132kV substation (total 822 HGVs (with rounding))	The indicative size of the 132 kV substations is 3,455m² **Applicant Response to SLD's WR [REP3-133], para. 3.5.5**). There will be 4 132kV substations within the Scheme Given the need to support components and equipment, it is accepted that the average depth of concrete used within this area would be 0.5m. It has been assumed that 50% of the area would be concrete and 50% would be aggregate at a depth of 0.3m. This provides a worst-case assessment, as indicative layouts show only 250m² (7.2%) of the area comprising concrete foundations. The trip generation calculations have been updated to include trip associated with concrete and aggregate. As per **Table 2** of **Appendix A of Stop Lime Downs Deadline 4 Comments [REP4-132]**, there would be a need for other components (security fencing, drainage, electrical and structural infrastructure, control room, lighting, security). The Applicant has assumed an additional 100 deliveries associated with these items for each 132kV substation. The trip generation calculations have been updated to include these trips.
400kV Substation Foundations	2,396 HGVs per substation	The indicative size of the 400kV substation is 38,037m² (see **Applicant Response to SLD's WR [REP3-133], para. 3.5.5**). The foundations are required to support heavy components and the equipment that handles them. it is assumed that the average depth of concrete used within

Item	Allowance in Revised Trip Generation Calculation	Notes
		this area would be 0.8m. It has been assumed that 50% of the area would be concrete and 50% would be aggregate at a depth of 0.3m. This provides a worst-case assessment, as indicative layouts show only 1,924m² (5.1%) of the area would comprise concrete foundations. The trip generation calculations have been updated to include trip associated with concrete and aggregate.
400kV Substation Compound	0	The Applicant has already assumed an additional construction compound in the vicinity of the BESS and 400kV substation below.
400kV Substation Other	250	As per **Table 2** of **Appendix A of Stop Lime Downs Deadline 4 Comments [REP4-132]** there would be a need for other electrical and structural components, control building, security fencing, lighting, drainage, security and the movements of equipment and machinery. The Applicant has assumed an additional 250 deliveries associated with these items. The trip generation calculations have been updated to include these trips.
BESS Units	270	As confirmed by the supplier, each BESS unit (5MWh) will comprise of a 20ft, 43 tonnes container (6.058m Length x 2.438m Width x *2.896m Height) While an AIL (in terms of weight only), each unit will require one delivery vehicle. The size of AIL vehicle delivering the BESS units will be no larger than a Max legal HGV. An example of a 5-axle SL2 Semi low loader trailer capable of delivering the BESS units is provided at **Appendix C**.

Item	Allowance in Revised Trip Generation Calculation	Notes
		The trip generation calculations have been updated to include these trips. Case Basis: REASONABLE WORST CASE (based on supplier information)
BESS Power Conversion System (PCS)/transformer Units	45	As confirmed by the supplier (see), each of the 45 integrated PCS/transformer units will comprise of a 40ft, 32 tonne container (12.192 Length x 2.438m Width x *2.896m Height) While an AIL (in terms of weight only), each unit will require one delivery vehicle. The size of AIL vehicle delivering the BESS units will be similar to a Max legal HGV. An example of a 7-axle SL2 Semi low loader trailer capable of delivering the PCS units is provided at **Appendix D**. The trip generation calculations have been updated to include these trips. Case Basis: REASONABLE WORST CASE (based on supplier information)
BESS Foundations	2,051 HGVs	The indicative size of the BESS area is 27,096m² (see **Applicant Response to SLD's WR [REP3-133], para. 3.5.5**). Both BESS and PCS units would sit on concrete platforms that would be supported on concrete piles. As per **Table 2** of **Appendix A of Stop Lime Downs Deadline 4 Comments [REP4-132]** the Applicant has assumed an average depth of concrete for BESS and PCS foundations of 0.8m.

Item	Allowance in Revised Trip Generation Calculation	Notes
		As per **Table 2** of **Appendix A of Stop Lime Downs Deadline 4 Comments [REP4-132]** The Applicant has assumed that the entire BESS area will include the provision of a further impermeable concrete structure, likely to be filled with gravel. The Applicant has assumed a 0.3m depth of concrete and 0.3m of gravel over areas not occupied by BESS and PCS platforms. The trip generation calculations have been updated to include trips associated with BESS foundations. Case Basis: REASONABLE WORST CASE
Other BESS Components	100	As per **Table 2** of **Appendix A of Stop Lime Downs Deadline 4 Comments [REP4-132]** there would be a need for other components including the BESS control room, drainage, the minimum of two fire water tanks, security fencing, equipment and machinery. The Applicant has assumed an additional 100 deliveries associated with these items. The trip generation calculations have been updated to include these trips. Case Basis: REASONABLE WORST CASE
BESS Compound	246	The Applicant has already assumed a construction compound in the vicinity of the BESS and 400kV substation. However, the Applicant has allowed for an additional compound in Lime Down D (West) if required. The 246 HGVs trips associated with this compound have been included within the total 1,252

Item	Allowance in Revised Trip Generation Calculation	Notes
		HGV compound movements set out above The trip generation calculations have been updated to include these trips. Case Basis: REASONABLE WORST CASE
Cable	55 HGVs	The Applicant has now allowed for 55 deliveries associated with cable associated with the solar array areas. The length of DC cables has been uplifted to account for an uplift to 842,500 panels . No uplift is required for AC cables as none of the electrical equipment upstream of these inverters needs to be uplifted. The resulting uplift in HGV trips associated with cables has been updated in the trip generation calculations. Case Basis: REASONABLE WORST CASE
Landscaping	495 HGVs	The Applicant identifies 489 deliveries associated with landscaping. The trip generation calculations for landscaping remains unchanged from calculations set out in **Annex E** of **ES Volume 3, Appendix 13-1: Transport Assessment [REP4-037].** Case Basis: REASONABLE WORST CASE
General	0	The Applicant identifies 2,685 HGVs associated with compounds, spoil removal and landscaping. These items

Item	Allowance in Revised Trip Generation Calculation	Notes
		are dealt with individually above so no additional allowance is made.
Highway Improvements and Site Accesses	0	The Applicant has confirmed that these would be constructed before the main scheme construction period.
Drainage Infrastructure	0	As per **Table 2** of **Appendix A of Stop Lime Downs Deadline 4 Comments [REP4-132],** the Applicant agrees that areas of hardstanding would require drainage. Allowance for this has been made on 'other' trips associated with the BESS and the likely over estimation of concrete for the foundations for the 400kV substation and the 132kV substations. Case Basis: REASONABLE WORST CASE
Cable Route Corridor	4 HGV Deliveries (8 movements), 4 LGV Deliveries (8 movements) and 10 Cars/Vans (20 movements) per day per access (total 90 days per access)	The Transport Assessment [REP3-065] states that each cable route access point would attract 4 HGV deliveries (8 movements), 4 LGV deliveries (8 movements) and 10 staff, all of whom are assumed to drive (20 movements). There are 28 cable route access points each operational for 90 days. This leads to a total of 20,160 HGV movements (28 accesses x 90 days x 8 HGV movements) and 70,560 light vehicle movements (28 accesses x 90 days x 8 LGV movements plus 28 accesses x 90 days x 20 car movements). At any one time, 4 access points are expected to be operating (4/28 of total). This gives an average of 32 HGV movements on a single day (4/28 x 20,160 HGV movements/90 days) over the 22km cable length. AIL movements

Item	Allowance in Revised Trip Generation Calculation	Notes
		are accounted for within the daily HGV movements. Case Basis: REASONABLE WORST CASE
Construction Days	5.5 day per week	The Applicant has updated the proposed construction days for each site based on the specified construction programme, 5.5 days per week and bank holidays (see **Appendix E)** A 20-month construction period has now also been assumed for the 400kV substation. Case Basis: REASONABLE WORST CASE
Concrete Density	2.4 tonnes per m^3	The Applicant has assumed that concrete used to construction various elements of the scheme would have a density of 2.4t/m^3. A concrete density of 3.0t/m^3 used in calculations in **Appendix A** of **Stop Lime Downs Deadline 4 Comments [REP4-132]** is normally reserved for nuclear radiation shielding or offshore ballasting**.** Case Basis: REASONABLE WORST CASE

3.2 Comparison of Total HGV Movements

3.2.1 The results of the revised calculations for total construction HGV trip Generation are summarised in **Table 3-2**:

Table 3-2: Summary of Revised Trip Generation Calculations

Quantity	Applicants Submitted Calculation	Applicant Revised Calculation	Percentage Difference
Total HGV Movements (PV Sites)*	26,086	35,054	34.4%
Total HGV movements (cable route corridor)	20,160	20,160	0%

Note: These figures do not include a 50% uplift

3.3 Comparison for Peak Daily HGV Movements

3.3.1 For comparison, the resulting peak daily HGV movements for each construction route, which includes for the 50% uplift in average daily trips for each specified Solar PV Site is provided in **Table 3-3**.

Table 3-3 Comparison of Peak Daily HGV Movements for Construction Routes

Construction Route	Applicants Submitted Calculation	Applicant Revised Calculation (Sensitivity)	Difference
Lime Down A-C	50	56	+6
Lime Down D (West)	56	54	-2
Lime Down D (East) and Lime Down E	42	61	+19

3.3.2 As shown in **Table 3-3**, the differences in calculated peak daily HGV movements for the construction routes to Lime Down A-C (via Alderton Road and Fosse Way) and Lime Down D (west) (via Bradfield Cottages) are negligible (less than one additional movement per hour within specified delivery times), with the movements associated with Lime Down D (west) reducing due to the increased programme for building out the 400kV substation.

3.3.3 **Table 3-3** shows peak daily HGV movements to Lime Down D (east) and Lime Down E increasing by 17 movements. However, the sites are accessed via the A429 which is readily able to accommodate the additional movements.

3.3.4 It should noted that these peak daily movement are only likely to last for the first few months, at the beginning of construction of each site, with the majority construction phase experiencing much lower movements.

3.4 Comparison of AADT HGV Movements

3.4.1 For further comparison, the resulting AADTs for each Solar PV site has been compared against the AADTs assessed within **ES Volume 1, Chapter 13: Transport and Access [REP4-014]** in **Table 3-4**.

Table 3-4 Comparison of AADT HGV movements for each Solar PV Site

Construction Route	Applicants Assessed AADT	Applicant Revised AADT (Sensitivity)	Difference
Lime Down A	16	4	-12
Lime Down B	12	2	-10
Lime Down C	22	9	-13
Lime Down D (West)	56	23	-23
Lime Down D (East)	24	3	-21
Lime Down E	18	7	-11

3.4.2 As shown in **Table 3-4**, the differences between the AADTs calculated from the revised trip generation calculations presented in **Appendix A**, are lower than the AADTs taken forward and assessed in **ES Volume 1, Chapter 13: Transport and Access [REP4-014]**.

3.4.3 The reason for this difference is that the submitted assessment in **ES Volume 1, Chapter 13: Transport and Access [REP4-014]** assumed peak day movements for every day of the two-year construction phase, which provided a considerable buffer for potential trips generated by the Scheme. However, given the level of detail which is provided in the revised calculations presented in **Appendix A,** the conventional approach to calculating AADTs has been applied, by calculating the total traffic volume within the construction phase and dividing it by the number of days (730) over the two-year construction period.

3.4.4 To provide further, comfort **Table 3-5** provides a comparison of AADTs assessed within **ES Volume 1, Chapter 13: Transport and Access [REP4-014]** and the average daily trips generated by each Solar PV site during its respective length of construction, as presented in the calculations presented in **Appendix A** (e.g. 213 days to construct Lime Down A). This demonstrates that the average daily trips for each Solar PV Sites are still within the AADT flows assessed within **ES Volume 1, Chapter 13: Transport and Access [REP4-014]**.

Table 3-5 Comparison of AADT HGV movements assessed in ES Chapter with Average movements for each Solar PV Site presented in Appendix A

Solar PV Site	Applicants Assessed AADT	Average Daily Movements During Build Out Time of Solar PV Site	Difference
Lime Down A	16	13	-3
Lime Down B	12	8	-3
Lime Down C	22	16	-6
Lime Down D (West)	56	36	-20
Lime Down D (East)	24	25	+1
Lime Down E	18	15	-3

3.4.5 In conclusion, while the updated trip calculations presented in **Appendix A** show an uplift in calculated trip generation for the Scheme, these trips fall within or accord with movements assessed within **ES Volume 1, Chapter 13: Transport and Access [REP4-014]**. It is also apparent that the daily peak movements shown in Appendix A are also comparable to those presented in **ES Volume 3, Appendix 13-1: Transport Assessment [REP4-037],** and no further assessment is required.

4 Conclusion

4.1.1 This Technical Note has reviewed and responded to the assumptions and calculations presented in **Appendix A of Stop Lime Down's Deadline 4 submission [REP4-132],** together with the matters raised in **Table 2 of Appendix D of Stop Lime Down's Written Representation [REP1-172]**. The review has applied, wherever possible, the same methodology and presentation format used by Stop Lime Down, while incorporating updated supplier information, scheme-specific design parameters and reasonable worst-case assumptions supported by available evidence.

4.1.2 The comparison of solar panel and mounting structure deliveries with other nationally significant solar projects demonstrates that, when assessed on a like-for-like basis using the actual Works No. 1 Solar PV generating station areas, Lime Down Solar Park generates a comparable level of HGV activity per hectare to other consented and proposed large-scale solar developments. The analysis therefore indicates that the Applicant's forecast construction delivery assumptions are consistent with industry experience and similar projects.

4.1.3 The revised sensitivity calculations presented in **Appendix A** identify an increase in total construction HGV movements associated with the Solar PV sites compared with the figures originally submitted within the Transport Assessment. However, this increase reflects the application of additional conservative assumptions and the inclusion of further detail relating to construction materials, foundations, compounds, waste, substations, BESS infrastructure and ancillary components. Consequently, the revised calculations represent a robust and reasonable worst-case assessment of construction traffic generation.

4.1.4 Importantly, despite the increase in total calculated HGV movements, the resulting peak daily HGV flows on the principal construction routes remain broadly comparable to those previously assessed. Differences on the routes serving Lime Down A-C and Lime Down D (West) are negligible, while the increase associated with Lime Down D (East) and Lime Down E occurs on routes accessed from the A429, which has sufficient capacity to accommodate the additional movements.

4.1.5 The assessment of Annual Average Daily Traffic (AADT) confirms that the traffic levels derived from the revised calculations remain within, or below, the levels assessed in **ES Volume 1, Chapter 13: Transport and Access [REP4-014]** and **ES Volume 3, Appendix 13-1: Transport Assessment [REP4-037]**. Furthermore, when average daily movements during the active construction periods are considered, the resulting flows remain consistent with those previously assessed as part of the Environmental Statement.

4.1.6 Overall, the analysis demonstrates that the revised construction traffic assumptions do not alter the conclusions of the Transport Assessment. The updated calculations provide additional confidence that the assessment has been undertaken on a robust and conservative basis and confirm that the construction traffic impacts of the Scheme have been appropriately assessed. Accordingly, the conclusions presented within **ES Volume 1, Chapter 13: Transport and Access [REP4-014]** remain valid, and no further highways assessment is considered necessary.

Appendix A Updated Trip Generation Calculations

Assessment of Construction Traffic Movements (Solar PV Areas only)

General assumptions red: inputs

2.0	aggregate density (t/m3)
2.4	concrete density (t/m3)
20.0	tonnes of aggregate per HGV
20.0	tonnes of concrete per HGV
11.1	tonnes of compacted waste per HGV
20.0	tonnes of concrete footings per HGV
1.5	topsoil density (t/m3)
20.0	tonnes of topsoil per HGV

1. PV Modules

	A	B	C	D (West)	D (East)	E	Total
Total Areas of Lime Down A-E (ha)	94	70	241	172	40	131	748
Works No. 1 Area (ha) - Area Containing Panels	39.2	33.6	108.0	101.8	23.9	79.0	385.3
Percentage Area (Works No. 1)	10.2%	8.7%	28.0%	26.4%	6.2%	20.5%	100.0%
Number of panels	85,665	73,399	236,070	222,528	52,198	172,641	842500
Number of HGV deliveries	**119**	**102**	**328**	**309**	**72**	**240**	**1,170**

Notes

842500	panels
2,186	panels/ha
720	panels/HGV

2. Mounting Structures

	A	B	C	D (West)	D (East)	E	Total
Area of Non-Intrusive Zone (ha)	3.84	0.86	6.86	2.79	0.66	1.02	16.03
Number of concrete footings	183	591	815	830	195	162	2,776
Front Footings (50%)	92	296	408	415	97	81	1,388
Rear Footings (50%)	92	296	408	415	97	81	1388
Total weight of Concrete (tonnes)	137	443	611	623	146	122	2082
HGV deliveries (concrete footings)	**7**	**22**	**31**	**31**	**7**	**6**	**104**
HGV Delivery of Monuting Structures (for 842500 modules)	**61**	**52**	**168**	**158**	**37**	**123**	**599**

50%	Percentage Split Front/Rear		
500	Weight of concreate per front footing (kg)	**Lime Down (West)**	81%
1000	Weight of conctete per rear footing (kg)	**Lime Down (East)**	19%

599 Total HGV deliveries for mounting structures - Based on confirmation from manufacturer/supplier.
Mounting strcutures for 0.9-1.1MWP of panels can be transported per standard articulated flat bed. 0.9MWP has been taken to represent worst case.
51.2% of panel deliveries

3. Waste (Wood, Plastic, Cardboard)

	A	B	C	D (West)	D (East)	E	Total
Total Waste - Wood, Plactic, Cardboard (m3)	3362	2880	9264	8733	2048	6775	33063
% of total	10%	9%	28%	26%	6%	20%	100%
Wood (m3)	1346	1153	3708	3496	820	2712	13235
Compated Wood (m3)	673	577	1854	1748	410	1356	6618
Wood (Tonnes)	336	288	927	874	205	678	3309
Plastic (m3)	795	681	2190	2064	484	1602	7816
Compated Plastic (m3)	199	170	548	516	121	400	1954
Plastic (Tonnes)	99	85	274	258	61	200	977
Cardboard (m3)	1221	1046	3366	3173	744	2461	12012
Compated Cardboard (m3)	204	174	561	529	124	410	2002
Cardboard (Tonnes)	102	87	280	264	62	205	1001
Total Compacted Waste (m3)	1075	921	2963	2793	655	2167	10574
Total Compacted Waste (Tonnes)	538	461	1481	1396	328	1083	5287
HGV	**54**	**46**	**148**	**140**	**33**	**108**	**529**

2	Wood Compaction Factor
0.5	Wood Compated Density t/m3
4	Plastic Compaction Factor
0.5	Plastic Compated Density t/m3
6	Plastic Compaction Factor
0.5	Plastic Compated Density t/m3
20	Volume (m3) per HGV

4. Access Tracks

	width (m)	depth (m)	compaction	vol/km (m3)		mass/km (t)	tippers/km		
solar PV access track	3.5	0.3	1.2	1,323		2,646	132	5%	Widening allowance
400kV substation/BESS access track	6.0	0.65	1.2	4,914		9,828	491	5%	Widening allowance
132kV substation access track	4.5	0.41	1.2	2,325		4,649	232	5%	Widening allowance

	A	B	C	D (West)	D (East)	E	Total
solar PV access track (km)	2.9	2.4	7.9	7.4	1.7	5.8	28.1
removal of PV access track	0.00	0.00	0.00	0.00	0.00	0.00	0.0
tipper truck deliveries/removals	**378**	**324**	**1042**	**982**	**230**	**762**	**3,718**

28.1	km of general access track
0%	% of access track removed

	A	B	C	D (West)	D (East)	E	Total
BESS/400kV access track (km)	0.0	0.0	0.0	0.9	0.0	0.0	0.9
132kV access track (km)	0.3	0.0	0.6	0.0	1.3	0.8	2.9
removal of SS/BESS track (km)	0.00	0.00	0.00	0.00	0.00	0.00	0.0
tipper truck deliveries/removals	**58**	**0**	**142**	**442**	**291**	**186**	**1,119**

0.9	km of BESS/400kV access track
2.9	km of 132kV access track
0%	% of access track removed

5. Compounds

	width (m)	length (m)	Depth	Compaction	Volume (m3)	HGVs
surfacing per compound	60	50	0.3	1.2	1080	108
removal of surfacing per compound	0	0	0	0	0	0

0% % of compoound removed

	A	B	C	D (West)	D (East)	E	Total
Number of compounds	1	1	2	3	1	2	10
HGVs for compound surfacing	108	108	216	324	108	216	1080
Weeks in Operation	39	39	74	87	17	61	
Total HGV servicing trips for compounds	78	78	296	522	34	244	1252
HGV deliveries	**186**	**186**	**512**	**846**	**142**	**460**	**2,332**

2 HGV servicing trips per week per compound (Some HGVs will service more than one compound)

6. Removal of Spoil

	A	B	C	D (West)	D (East)	E	Total
volume from access tracks (m^3)	3,150	2,699	8,681	8,183	1,919	6,348	30,980
volume from BESS/400kV access track (m^3)	0	0	0	3,686	0	0	3,686
volume of 132kV access track (m3)	461	0	1,125	0	2,306	1,476	5,369
volume from compounds (m^3)	900	900	1800	2700	900	1800	9,000
volume from conversion units (m^3)	806	614	2035	1462	343	1114	6,374
volume from substations (m^3)	864	0	864		864	864	3,455
volume from 400kV SS (m^3)	-	-	-	20,920	-	-	20,920
volume from BESS (gravel and concrete) (m^3)	-	-	-	16,305	-	-	16,305
Total volume (m^3)	6,181	4,213	14,505	53,255	6,332	11,602	96,089
Total Weight (Tonnes)	9,272	6,320	21,758	79,883	9,498	17,403	144,134
% off site	10%	10%	10%	10%	10%	10%	10%
HGVs	**46**	**32**	**109**	**399**	**47**	**87**	**721**

1,103	General Access Track - Volume of soil per km (m3)
4095	BESS/400kV Access Track - Volume of soil per km (m3)
1845	132kV Access Track - Volume of soil per km (m3)
900	Volume of spoil per compound (m3)

7. 33kV Conversion Units (skids/power stations)

	width (m)	length (m)	area (m2)	depth (m)	Volume (m3)	Tonnes
concrete foundations per conversion units	6.0	16.0	96	0.2	19.2	46.08
aggregate foundations per conversion unit	6.0	16.0	96	0.2	19.2	38.4

	A	B	C	D (West)	D (East)	E	Total
number of 33kV conversion units	21	16	53	38	9	29	166
total weight of concrete (tonnes)	968	737	2442	1754	411	1336	7649
HGVs for concrete foundations	48	37	122	88	21	67	382
total weight of aggregate (tonnes)	806	614	2035	1462	343	1114	6374
HGVs for aggregate foundations	40	31	102	73	17	56	319
Total HGVs for foundations	89	68	224	161	38	122	701
transport of conversion units (HGVs)	21	16	53	38	9	29	166
Total HGVs	**110**	**84**	**277**	**199**	**47**	**151**	**867**

1 HGV per conversion unit Inverter/Transformer powerbock(L*W*H, 6.058*2.438*2.896)- 20 Tonne, 20' HC (4.4MVA) - 1 unit per HGV (Confirmed by a manufacturer Sungrow)

8. 132 kV Substations

	width (m)	length (m)	area (m^2)	depth (m)	Volume (m3)	Tonnes	HGVs
surface area per substation			3,455				
area of concrete			1,728	0.5	864	2073	**104**
area of aggregate			1,728	0.3	518	1036.5	**52**
other deliveries per substation							**100**

50%	Concrete surface
50%	Aggregate Surface

	A	B	C	D (West)	D (East)	E	tot
number of 132kV SS per Area	1	0	1	0	1	1	**4**
HGVs	**255**	**0**	**255**	**0**	**255**	**255**	**1,022**

9. 400 kV Substation

	width (m)	length (m)	area (m^2)	depth (m)	volume (m^3)	HGVs
			38,037			
concrete			19,019	0.8	15,215	**1,826**
aggregate			19,019	0.3	5,706	**571**
included in general ar equipment/machinery, piles, cabling, infrastructure, control building, fencing, security, etc.						**250**
					Total for substation	**2,646**

50%	Area of concrete foundations
50%	Area of Aggregate

10. BESS

270	BESS units	**270**	1	HGVs per BESS — BESS units (L*W*H, 6.058*2.438*2.896)- Standard size is a 20' HC container (5MWh per container) - 1 unit per HGV (Confirmed by Canadian Solar) - 43 tonne weight
45	Power conversion system units (PCSs)	**45**	1	HGVs per PCS — PCS/Transformer unit (L*W*H, 12.192*2.438*2.896. 40' HC container(8-9.2MVA) - 1 unit per HGV (Confirmed by manufacturer SMA) 32 tonne weight.

	width (m)	length (m)	area (m^2)	depth (m)	volume (m^3)	Tonnes	HGVs
total compound			27,096				
BESS platform concrete	3.5	7.0	6,615	0.8	5,292	12701	**635**
PCS platform concrete	3.5	13.5	2,126	0.8	1,701	4082	**204**
aggregate (remaining compound area)			18,355	0.3	5,506	11013	**551**
fire water containment (concrete)			18,355	0.3	5,506	13215	**661**
Removec equipment/machinery, piles, cabling, infrastructure, control building, fencing, security, etc.							**100**
						Total for BESS	**2,151**

11. Cable (for PV sites)

DC Cable	A	B	C	D (West)	D (East)	E	Total
DC Cable Length (metres) for 600,000 panels	211500	197150	596950	561128	131623	422000	2120350
DC Cable Length (metres) for 842,508 panels	296981	276831	838217	787917	184820	592558	2977325
Metres of cable per drum	1000	1000	1000	1000	1000	1000	
Number of Drums	297	277	838	788	185	593	2977
Weight per drum (kg)	90	90	90	90	90	90	
Total Weight (tonnes)	27	25	75	71	17	53	
Assumed vehilce capacity (tonnes)	20	20	20	20	20	20	
HGVs	**2**	**2**	**4**	**4**	**1**	**3**	**16**
AC Cable	A	B	C	D (West)	D (East)	E	Total
DC Cable Length (metres)	16920	15772	47756	44890	10530	33760	169628
Metres of cable per drum	500	500	500	500	500	500	
Number of Drums	34	32	96	90	21	68	339
Weight per drum (kg)	2150	2150	2150	2150	2150	2150	
Total Weight (tonnes)	73	68	205	193	45	145	
Assumed vehilce capacity (tonnes)	20	20	20	20	20	20	
HGVs	**4**	**4**	**11**	**10**	**2**	**8**	**39**

1.4 Uplift in DC Cabling as a result of increased panel numbers to 842,508

1 No uplift in AC cabling required as a result of increased panel numbers to 842,508

A	B	C	D (West)	D (East)	E	Total
6	**6**	**15**	**14**	**3**	**11**	**55**

12. Landscaping

Land Parcel

	A	**B**	**C**	**D (West)**	**D (East)**	**E**	**Total**
Fence length (metres)	5775	5383	16300	15322	3594	11523	57899
HGVs	**1**	**1**	**1**	**1**	**1**	**1**	**5**

Land Parcel

	A	**B**	**C**	**D (West)**	**D (East)**	**E**	**Total**
Posts	2888	2692	8150	7661	1797	5762	28949
HGVs	**2**	**2**	**7**	**7**	**2**	**5**	**24**

Land Parcel

	A	**B**	**C**	**D (West)**	**D (East)**	**E**	**Total**
Groundcover Seeding (hectares)	70	65	198	186	44	140	703
Groundcover Seeding (kg)	2804	2614	7914	7440	1745	5595	28112
HGVs	**1**	**1**	**1**	**1**	**1**	**1**	**5**

Land Parcel

	A	**B**	**C**	**D (West)**	**D (East)**	**E**	**Total**
New Hedgerow Length (metres)	1619	1509	4569	4295	1007	3230	16230
Number of Bareroot Whips	9713	9054	27416	25771	6045	19381	97380
HGVs - Subtotal	**1**	**1**	**1**	**1**	**1**	**1**	**5**
Number of Rootballs	4857	4527	13708	12886	3023	9690	48690
HGVs - Subtotal	14	13	39	37	9	27	138
Total HGVs	**15**	**14**	**40**	**38**	**9**	**28**	**143**

Land Parcel

	A	**B**	**C**	**D (West)**	**D (East)**	**E**	**Total**
New Hedgerow Length (metres)	5478	5106	15462	14534	3409	10930	54920
Number of Bareroot Whips	16434	15319	46386	43602	10228	32791	329520
HGVs - Subtotal	**1**	**1**	**2**	**2**	**1**	**1**	**7**
Number of Rootballs	8217	7660	23193	21801	5114	16396	82380
HGVs - Subtotal	23	22	65	61	15	46	231
Total HGVs	**24**	**23**	**67**	**63**	**15**	**47**	**238**

Land Parcel

	A	**B**	**C**	**D (West)**	**D (East)**	**E**	**Total**
Area in hectares	2	2	5	5	1	4	19
Number of Bareroot Whips	4795	4470	13535	12723	2984	9568	48075
HGVs - Subtotal	**1**	**1**	**1**	**1**	**1**	**1**	**5**
Number of Rootballs	2398	2235	6767	6362	1493	4784	24038
HGVs - Subtotal	7	7	19	18	5	14	69
Total HGVs	**8**	**8**	**20**	**19**	**5**	**15**	**74**

A	B	C	D (West)	D (East)	E	Total
51	**49**	**136**	**129**	**33**	**97**	**495**

Total HGV (PV Sites)

	A	B	C	BESS + SS D (West)	D (East)	E	Total
Total HGV deliveries	**1,332**	**903**	**3,162**	**8,446**	**1,198**	**2,486**	**17,527**
Total HGV movements	2,663	1,805	6,324	16,892	2,397	4,973	35,054
number of days	213	213	394	467	95	325	
average daily movements	13	8	16	36	25	15	114
Average + 50%	19	13	24	54	38	23	**171**
AADT	4	2	9	23	3	7	

730 Total number of days during two-year construction phase

Worker Movements

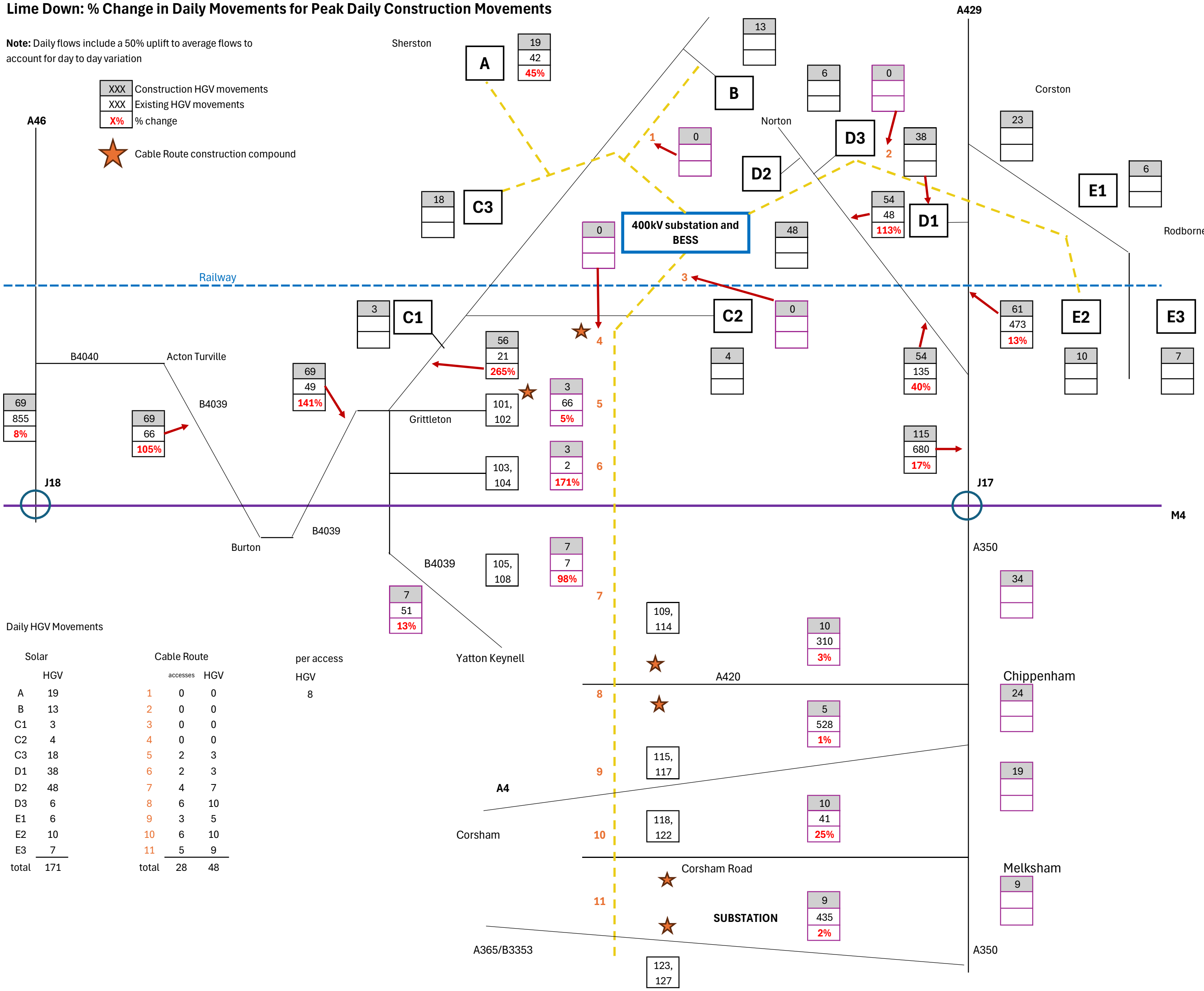
Land Parcel

	A	B	C	D (West)	D (East)	E	Total		
Peak Day workers	62	58	175	165	39	124	622	622	total staff within PV areas
Shuttle Bus passengers	31	29	88	82	19	62	311	50%	by shuttle bus
Car Passengers	31	29	88	82	19	62	311		
Shuttle Bus Trips	2	2	6	5	1	4	21	15	per shuttle bus
Car Trips	21	19	58	55	13	41	207	1.5	per car
Total	23	21	64	60	14	45	228		
Total Movements	**46**	**42**	**128**	**121**	**28**	**91**	**456**		

Appendix B Peak Daily Movements

Lime Down: % Change in Daily Movements for Peak Daily Construction Movements

Note: Daily flows include a 50% uplift to average flows to account for day to day variation



Daily HGV Movements

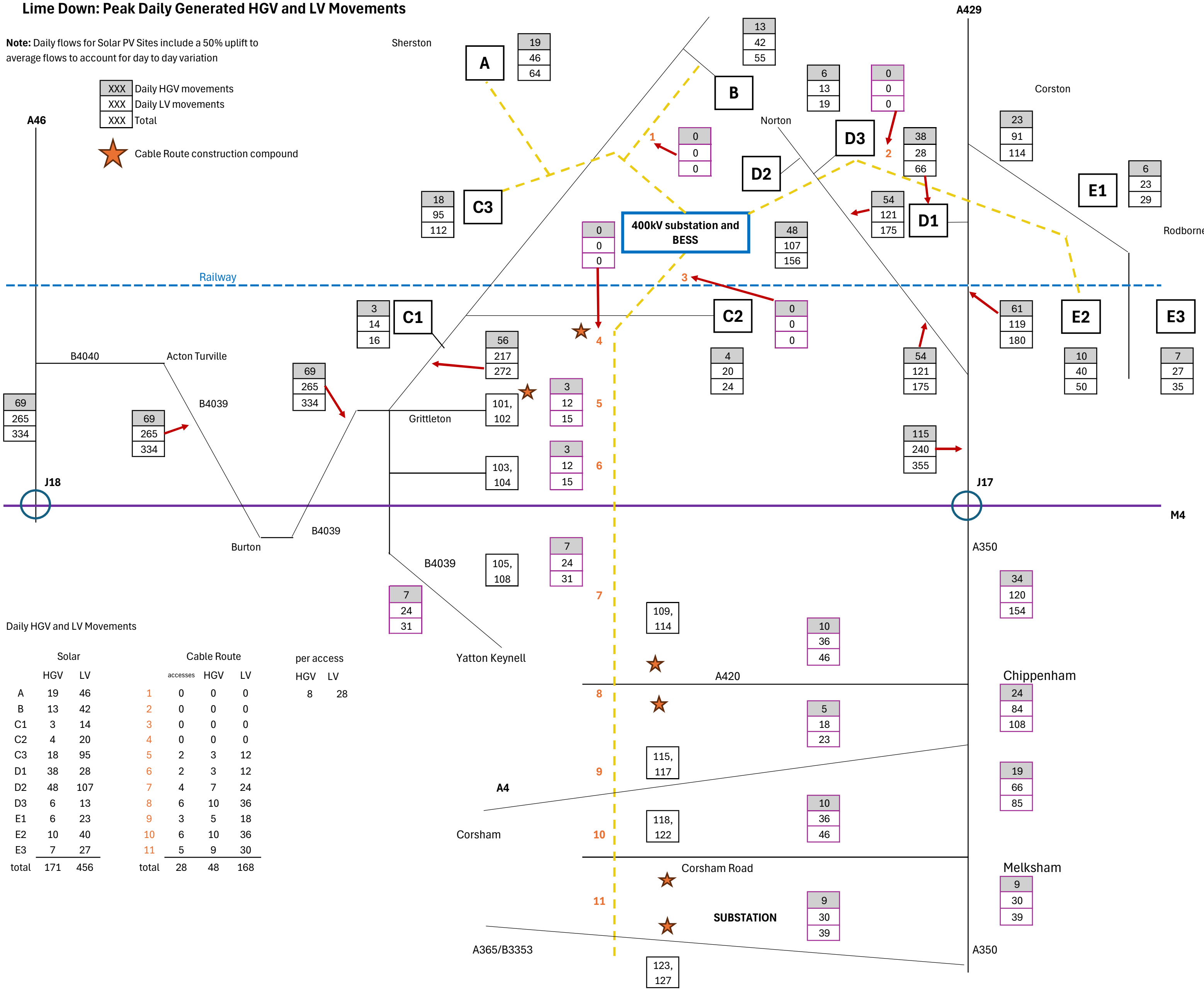
Solar	HGV
A	19
B	13
C1	3
C2	4
C3	18
D1	38
D2	48
D3	6
E1	6
E2	10
E3	7
total	171

Cable Route	accesses	HGV
1	0	0
2	0	0
3	0	0
4	0	0
5	2	3
6	2	3
7	4	7
8	6	10
9	3	5
10	6	10
11	5	9
total	28	48

per access
HGV
8

Lime Down: Peak Daily Generated HGV and LV Movements

Note: Daily flows for Solar PV Sites include a 50% uplift to average flows to account for day to day variation



Daily HGV and LV Movements

Solar	HGV	LV
A	19	46
B	13	42
C1	3	14
C2	4	20
C3	18	95
D1	38	28
D2	48	107
D3	6	13
E1	6	23
E2	10	40
E3	7	27
total	171	456

Cable Route	accesses	HGV	LV
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	2	3	12
6	2	3	12
7	4	7	24
8	6	10	36
9	3	5	18
10	6	10	36
11	5	9	30
total	28	48	168

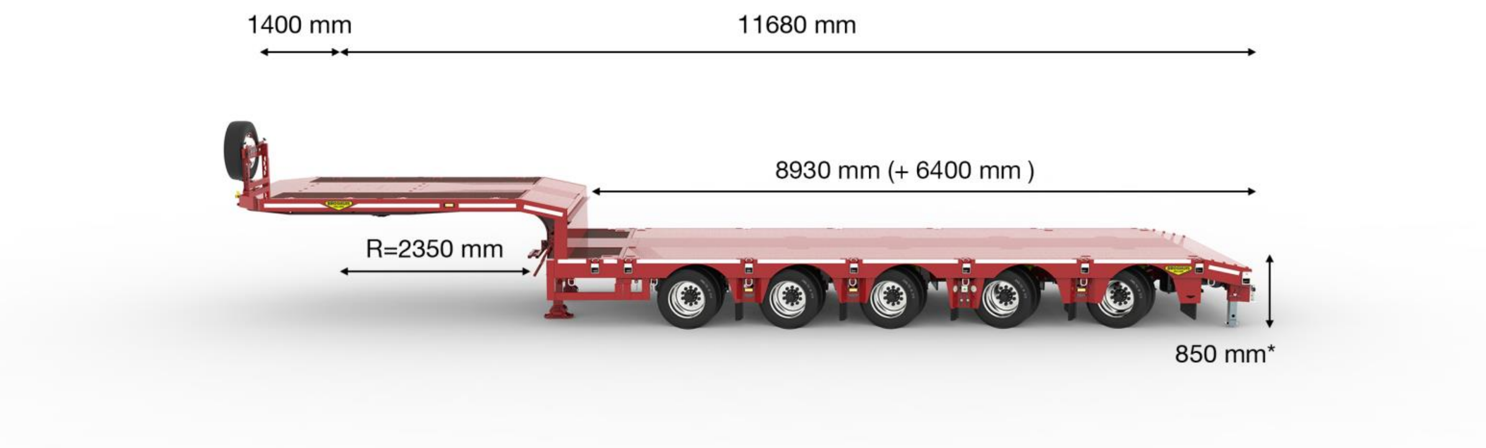
per access	
HGV	LV
8	28

Appendix C Example 5-Axle SL2 Low Loader

5-axle SL2 semi low loader

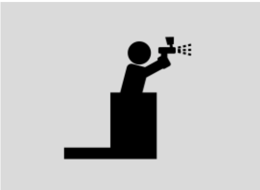
Trailer specifications

Dimensions and weights



Weights in kg	Netherlands		Germany		England	
	C & U	Special types	C & U	Special types	C & U	Special types
Maximum fifth wheel load	23000	23000	23000	23000	23000	23000
Maximum bogie load	45000	50000	40000	60000	40000	70000
Gross load capacity	68000	73000	63000	83000	63000	93000
Tare weight, app.	15000	15000	15000	15000	15000	15000
Net load capacity, app.	53000	58000	48000	68000	48000	78000

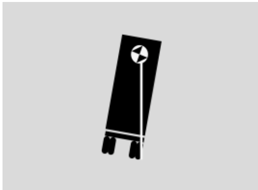
Your benefits



Optional complete metalized

The lowest trailer with the most ground clearance

Great steering angle of 57°



Greater stability

Neck

- The (single beam) neck height is 230 mm and suitable for 23T fifth wheel pressure. Under rear side of the neck accordance ISO chamfer
- Front extension 1400 mm
  Chamfered corners at front 400x400 mm
- Fifth wheel height 1170 mm
- Neck width 2530 mm
- Rear swing cleareance 2350 mm
- Hard wood floor of 28 mm thick
- 3,5" Kingpin, fitted under a ball bearing turntable. The turntable is connected to two double action hydraulic steering rams. Holder is suitable for mounting a 2" kingpin
- 10T certified lashing rings (max. Load 5T) . According NEN12640
  TÜV Certificate
- 32 mm holes in the side rave, to use as lashing point
- Divided at the side raves of the neck, dim. 96x66x6mm, suitable for stakes of 81x51mm
- Spare wheel carrier at front of the gooseneck. Suitable for one spare wheel.
- Slope for easy access of the neck 600x12°.
  U profile for the attachment of aluminium ramps
- Landing gear two speed vertical lift, with S foot. Static capacity of 50.000 kgs

Floor

- The torsion rigid chassis is in the lower deck extendible in increments of approx. 500 mm. Air assisted locking pins are fitted to either side of the main beam and operated by a single two way valve.
- Height of axle bogie 850 mm (loaded)
- With a central main beam of high tensile steel
- Fixed part 850 mm
- Width of loading area 2530 mm
- 'Pull out' galvanised outriggers to increase the overall lower deck width by 500mm (250mm per side of the trailer)
- 37 mm nominal hardwood in the lower deck.
  8/10 mm steel chequer plate fitted over the suspension area
- Heavy duty side raves 240 mm deep, welded by strong steel cross members to chassis
- All air and service lines are located in an energy chain within the central main beam. Resulting in improved ground clearance and reduced maintenance
- 10T certified lashing rings divided in the side rave of the loading floor, placed every approx. 1.2 meter, according EN12650 with TÜV Certificate
- 32 mm holes in the side rave, to use as lashing point
- Rope hooks. On each side of the trailer
- Stake pockets divided at the side raves of the trailer, dim. 96x66x6mm, suitable for stakes of 81x51mm
- Container position for 1x 20 Ft (Container mountings are optional)
- Container position for 1x 30 Ft (Container mountings are optional)
- Container position for 1x 40 Ft (Container mountings are optional)
- Container position for 1x 45 Ft (Container mountings are optional)
- Beavertail of 300 mm x 12° for easy access of the lower deck, incl. U profile for the optional aluminium ramps
- Beavertail with 8/10 mm checkerplate floor
- At the rear of the chassis a pair of drop down steady legs to support the chassis beaver tail when using the ramps

Axle bogie

- Broshuis 12T axles
- Axle quantity: 5
- The patented SL2 suspension can be independently steered left and right. It combines a low ride height with a maximum steer angle of 57 degrees. The patented SL2 suspension can be driven at any ride height without any influence on the toe-in and toe-out. It has a travel of 360 mm (+290/-70 mm). The brake cylinders are relocated to give maximum possible protection with this latest design.
- Broshuis hydraulic steering system, consists of two fully independent circuits.
  - Butterfly section, with adjustable conical bearing, resulting in extremely low maintenance,
  - Adjustable steering rods, to correct axle alignment tracking to compensate for wear during the life of the trailer.
  - Air, electrical and hydraulic service lines are housed inside the central spine(s) in an energy chain
- All axles of the bogie are hydraulic steered
- Tyre Pressure Monitoring System according ECE R141
- Distance between the axles is 1510 mm
- The left and right floor height can be operated seperatly. 2 LED indicators are installed to set the correct floor height. Operation from the neck.
- Manual override steering with 3kW electrical pump
- Electrical hydraulic override steering system, to allow the axles to steer independently of the tractor unit, by means of buttons. Butterfly section, with adjustable conical bearing, extremely low maintenance - adjustable steering rods, to correct axle alignment tracking to compensate for wear during the life of the trailer. Air, electrical and hydraulic service lines are housed inside the central spine(s) in an energy chain
- Two air line Wabco brake system, EC-approved design with an automatic load sensing device. Spring type chambers fitted to two axles for the hand brake. Incl. EBS

- An hydraulic pressure gauge is connected to the suspension for determing the axle loads
- Tyre brand to choice of Broshuis (Continental, Goodyear or comparable). 245/70 R17.5
- Steel rims, light grey

Lights

- Lights are complete in LED
- 2 pairs of 3-chambers rear lights and Led side-marker-lights. Conform EU-specifications
- One LED fog light
- 1 pair of reversing lights LED
- One rear flashing beacon connection at the rear side
- On each side at the neck and axle bogie a connector fitted with holder for extendible marker board lights
- Connector for over width marker board lights: 3 pin plug

Accessories

- Spare wheel 1x
- Central Greasing level II with a pump. Brand of pump Bekamax
- EBS connector
- Connectors at the front: Dual 7 pin SAE plugs
- Air couplings palm type
- A 35mm2 cable between truck and trailer for the use of any electrical power supply
- 24V power connector NATO
- The chassis is equipped with white reflective tape on sides and red reflective tape on the back

Paintwork

- Metallized and finished in one colour. (non-metallic)
- After chassis assembly, the support brackets for valves, air tanks and pipe and wiring runs are fitted. The completed chassis is then shot blasted and immediately painted according to the Broshuis 2K paint system. The final fitting of all the components is carried out after the chassis has been through the preservation process

Permits

- SERT-Document. Heavy transport permit for the Netherlands to increase axle loads

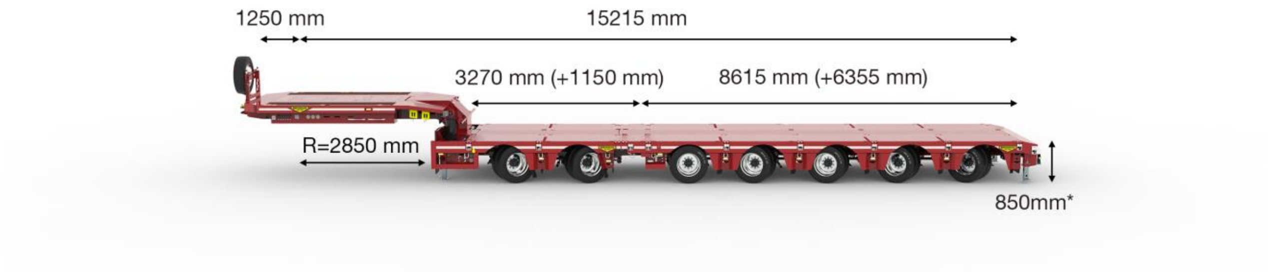
Appendix D Example 7-Axle SL2 Low Loader

BROSHUIS HOLLAND

7-axle SL2 semi low loader (2+5)

Trailer specifications

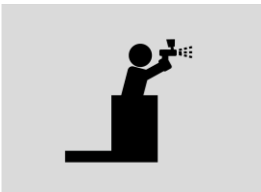
Dimensions and weights



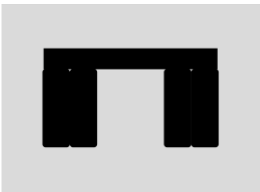
Weights (in kg)	Netherlands		Germany		England	
	C & U	Special types	C & U	Special types	C & U	Special type
Maximum fifth wheel load	30000	30000	30000	30000	30000	30000
Maximum bogie load	63000	70000	63000	84000	63000	101500
Gross load capacity	93000	100000	93000	114000	93000	131500
Tare weight, app.	25000	25000	25000	25000	25000	25000
Net load capacity, app.	68000	75000	68000	89000	68000	106500

Weights (in kg)	Netherlands		Germany		England	
	C & U	Special types	C & U	Special types	C & U	Special type
Maximum fifth wheel load	30000	30000	30000	30000	30000	30000
Maximum bogie load	45000	50000	45000	60000	45000	72500
Gross load capacity	75000	80000	75000	90000	75000	102500
Tare weight, app.	18500	18500	18500	18500	18500	18500
Net load capacity, app.	56500	61500	56500	71500	56500	84000

Your benefits

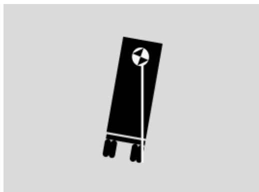


Optional complete metalized



The lowest trailer with the most ground clearance

Great steering angle of 57°



Greater stability

Neck

- The (single beam) hydraulic neck height is 350 mm and suitable for 30T fifth wheel pressure
- The hydraulics of the gooseneck are connected and linked with the hydraulic suspension of the dolly. The max fifth wheel pressure is switchable to 19T or 30T
- Front extension 1250 mm. Chamfered corners at front 400x400 mm
- Fifth wheel height 1250 mm
- Neck width 2530 mm
- Rear swing cleareance 2850 mm
- Hard wood floor of 28 mm thick
- 3,5" Kingpin, fitted under a ball bearing turntable. The turntable is connected to two double action hydraulic steering rams. Holder is suitable for mounting a 2" kingpin
- A hydraulic stinger is provided with 2 separate operable cilinders to support the neck whilst removing the gooseneck. Cilinders approx. 1300 mm from Kingpin.
- 10T certified lashing rings (max. Load 5T) . According NEN12640
TÜV Certificate
- 32 mm holes in the side rave, to use as lashing point
- Divided at the side raves of the neck, dim. 96x66x6mm, suitable for stakes of 81x51mm
- Spare wheel carrier at front of the gooseneck. Suitable for one spare wheel.
- At the front a pair of drop down legs (lightweight construction)

Floor

- Step frame construction with a central main beam of high tensile steel. The torsion rigid chassis is in the lower deck extendible in increments of approx. 500 mm. Air assisted locking pins are fitted to either side of the main beam and operated by a single two way valve. All air and service lines extend automatically when extending the lower deck
- The dolly is 1x extendible for better weight distribution or for better supporting the load.
- Height of axle bogie 850 mm (loaded)
- With a central main beam of high tensile steel
- Main beam has compression joints between neck and dolly and between dolly and rear axle bogie. The trailer can therefore also be used without dolly
- Width of loading area 2730 mm
- 'Pull out' galvanised outriggers to increase the overall lower deck width by 500mm (250mm per side of the trailer)
- 8/10 mm steel chequer plate fitted over the suspension area
- Heavy duty side raves 240 mm deep, welded by strong steel cross members to chassis
- All air and service lines are located in an energy chai within the central main beam. Resulting in improved ground clearance and reduced maintenance
- 10T certified lashing rings divided in the side rave of the loading floor, placed every approx. 1.2 meter, according EN12650 with TÜV Certificate
- 32 mm holes in the side rave, to use as lashing point
- Rope hooks. On each side of the trailer
- 10T lashing rings floor against the main beam
- Stake pockets divided at the side raves of the trailer, dim. 96x66x6mm, suitable for stakes of 81x51mm
- 2 pair of stake pockets against main beam dolly
- Stake pocket row between axle 1 and 2
- Stake pocket row between axle 3 and 4
- Stake pocket row between axle 5 and 6
- Stake pocket row between axle 6 and 7
- Beavertail of 300 mm x 12° for easy access of the lower deck, incl. U profile for the optional aluminium ramps
- At the rear of the chassis a pair of drop down steady legs to support the chassis beaver tail when using th ramps

Axle bogie

- Broshuis 12T axles
- Axle quantity: 7
- The patented SL2 suspension can be independently steered left and right. It combines a low ride height with a maximum steer angle of 57 degrees. The patented SL2 suspension can be driven at any ride height without any influence on the toe-in and toe-ou It has a travel of 360 mm (+290/-70 mm). The brake cylinders are relocated to give maximum possible protection with this latest design.
- Broshuis hydraulic steering system, consists of two fully independent circuits.
- Butterfly section, with adjustable conical bearing, resulting in extremely low maintenance,
- Adjustable steering rods, to correct axle alignment tracking to compensate for wear during the life of the trailer.
- Air, electrical and hydraulic service lines are house inside the central spine(s) in an energy chain
- All axles of dolly are hydraulic steered
- Tyre Pressure Monitoring System according ECE R141
- Distance between axles is 1510 mm
- The left and right floor height can be operated seperatly. 2 LED indicators are installed to set the correct floor height. Operation from the neck.
- Manual override steering with 3kW electrical pump

- Electrical hydraulic override steering system, to allow the axles to steer independently of the tractor unit, by means of buttons. Butterfly section, with adjustable conical bearing, extremely low maintenance - adjustable steering rods, to correct axle alignment tracking to compensate for wear during the life of the trailer. Air, electrical and hydraulic service lines are housed inside the central spine(s) in an energy chain
- Two air line Wabco brake system, EC-approved design with an automatic load sensing device. Spring type chambers fitted to two axles for the hand brake. Incl. EBS
- A raisable axle is fitted on axle 1and 2 to adjust the weight on the fifth wheel or to reduce the tyre wear.
- An hydraulic pressure gauge is connected to the suspension for determing the axle loads
- Tyre brand to choice of Broshuis (Continental, Goodyear or comparable). 245/70 R17.5
- Steel rims, light grey

Lights

- Lights are complete in LED
- 2 pairs of 3-chambers rear lights and Led side-marker-lights. Conform EU-specifications
- One LED fog light
- 1 pair of reversing lights LED
- One rear flashing beacon connection at the rear side
- Preparation for over width marker board lights. On each side at the neck , dolly, front and rear axle bogie a connector.
- Connector for over width marker board lights: 3 pin plug

Accessories

- Spare wheel 1x
- Central Greasing level II with a pump. Brand of pump Bekamax
- EBS connector
- Connectors at the front: Dual 7 pin SAE plugs
- Air couplings palm type
- A 35mm2 cable between truck and trailer for the use of any electrical power supply
- 24V power connector NATO
- The chassis is equipped with white reflective tape on sides and red reflective tape on the back

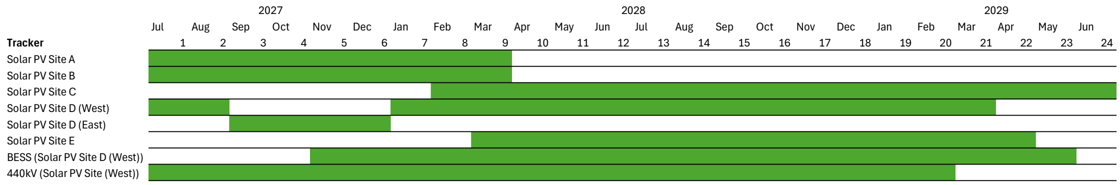
Paintwork

- Metallized and finished in one colour. (non-metallic)
- After chassis assembly, the support brackets for valves, air tanks and pipe and wiring runs are fitted. The completed chassis is then shot blasted and immediately painted according to the Broshuis 2K paint system. The final fitting of all the components is carried out after the chassis has been through the preservation process

Permits

- Heavy transport permit for the Netherlands to increas axle loads

Appendix E Construction Days and Week Calculations



Tracker	Working Days	Weeks
Solar PV Site A	212.5	39
Solar PV Site B	212.5	39
Solar PV Site C	394	74
Solar PV Site D (West)	395.5	75
Solar PV Site D (East)	94.5	17
Solar PV Site E	324.5	61
BESS (Solar PV Site D (West))	440	82
440kV (Solar PV Site (West))	466.5	87

Overall Summary (England & Wales Bank Holidays Excluded, Saturdays Counted Separately)

Period	Working Weekdays (Excl. Bank Holidays)	Saturdays	Full-Day Equivalent*
Jul 2027 – Aug 2027	43	9	47.5
Sep 2027 – Dec 2027	86	17	94.5
Jul 2027 – Mar 2028	193	39	212.5
Feb 2028 – Jun 2029	357	74	394.0
Jan 2028 – Mar 2029	315	66	348.0
Mar 2028 – Apr 2029	294	61	324.5
Nov 2027 – May 2029	399	82	440.0
Jul 2027 – Feb 2029	423	87	466.5

Solar PV Site A
Solar PV Site B

Summary

- **193 working weekdays (after bank holidays)**
- **39 Saturdays**
- **212.5 full-day equivalent working days** (if Saturdays are half-days)

Solar PV Site C

Summary

- **357 working weekdays (excluding bank holidays)**
- **74 Saturdays**
- **394 full-day equivalent working days** (if Saturdays are half-days)

Solar PV Site D (West)

Period	Working Weekdays	Saturdays
Jul–Aug 2027	43	9
Jan 2028–Mar 2029	315	66
Total	**358**	**75**

If Saturdays are half-days:

358 + (75 × 0.5) = 395.5 full-day equivalent working days.

Solar PV Site D (East)

Summary

Period	Working Weekdays	Saturdays	Full-Day Equivalent*
Sep–Dec 2027	86	17	94.5

*Assuming Saturdays are counted as half-days.

Solar PV Site E

Summary

Period	Working Weekdays	Saturdays	Full-Day Equivalent*
Mar 2028 – Apr 2029	294	61	324.5

*Assuming Saturdays are counted as half-days.

BESS (Solar PV Site D (West))

Summary

- **399 working weekdays (excluding bank holidays)**
- **82 Saturdays**
- **440 full-day equivalent working days** (if Saturdays are half-days) gov +1

440kV (Solar PV Site (West))

Summary

- **423 working weekdays (excluding bank holidays)**
- **87 Saturdays**
- **466.5 full-day equivalent working days** (if Saturdays are counted as half-days) gov +1