acstro

Construction Traffic Management Plan

Hafod Road Solar Farm
Johnstown
Wrexham

June 2025

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Revision History

A	10th April 2025	First Issue
B	18th June 2025	Revised Layout

1858-ACS-ZZ-XX-RP-T-001-B CTMP.docx

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1 Introduction

1.1 Acstro has been appointed by Dulas Ltd., on behalf of Ymddiriedolaeth Cymru National Trust, to prepare a Construction Traffic Management Plan (CTMP) to support a planning application for the proposed development of a solar farm at Hafod Road, Johnstown, Wrexham. The site's location and extent is shown in Appendix 1.

Appendix 1 Location Plan

1.2 The purpose of this CTMP is to outline the measures to be followed by all persons and companies visiting, travelling, or delivering items to the site during the construction period.

1.3 Following this plan will help to reduce the negative effects of off-site construction traffic on the local environment. It will set a standard to follow which has the safety of all road users as its core value.

1.4 This is a live document and is subject to change as the scope of work develops and site conditions change.

1.5 The content of the CTMP will be communicated at the following appropriate points:

- Sub-contractor Tender Enquiries
- The Pre-Start Health, Safety and Environmental meetings
- All site inductions will include a section on the CTMP
- During on-going Toolbox Talks throughout the course of the works

1.6 Throughout the period of the works a nominated member of staff will act as a point of contact to manage liaison and handle local issues and points of concern.

2 Existing Conditions

2.1 The site is located approximately 1km east of Johnstown, 2km north of Ruabon and 5km south of Wrexham.

2.2 The site has boundaries with Hafod Road to the west, the B45426 (Bangor Road) to the south and A483 to the east. Immediately to the north west of the site is Hafod House Rest Home.

2.3 The north eastern boundary is with an access lane that serves Hafod House Farm and Hafod Cottages (two cottages). The access lane (referred to as Hafod House Farm Lane hereafter) also provides access for maintenance vehicles to the recently developed Hafod y Bwch Commemorative Woodland which lies immediately to the north. Hafod House Farm Lane is a public right of way that continues east, over the A483, to link with Wat's Dyke Way. The proposed solar farm development will be accessed from Hafod House Farm Lane.

2.4 Visibility for traffic joining Hafod Road from Hafod House Farm Lane is restricted in both directions by the highway boundary hedge and fence to the south and north, respectively.



Figure 1 Hafod Road / Hafod House Farm Lane Junction



Figure 2 Junction Visibility to the South



Figure 3 Junction Visibility to the North

2.5 Despite the restricted visibility at the Hafod House Farm Lane junction, it has operated safely for many years. There have been no recorded injury collisions at, or near to, the junction for at least the latest 25-year period for which data is available (1999–2023 inclusive). We have not been able to source records prior to 1999.

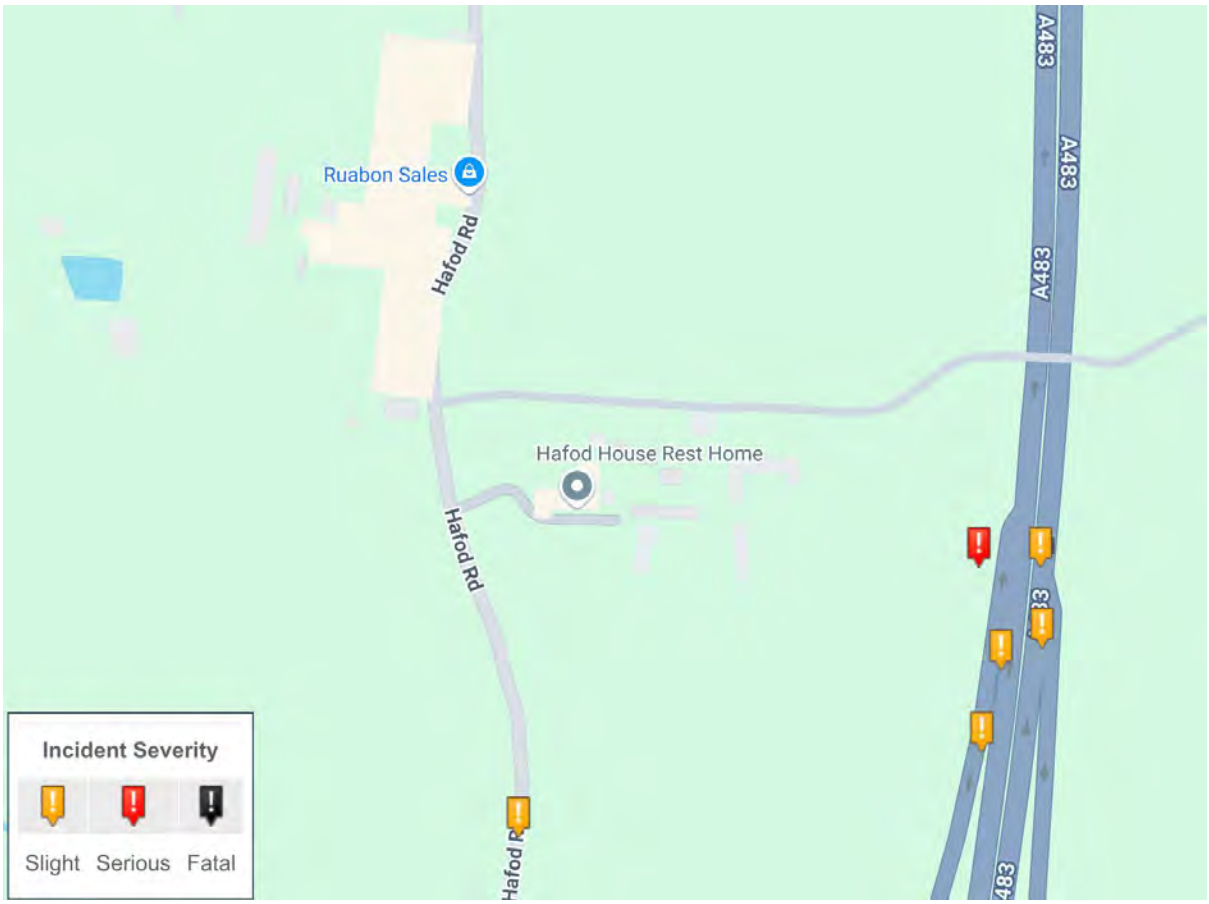


Figure 4 Injury Collision Locations & Severity 1999 to 2023 (crashmap.co.uk)

2.6 Nevertheless it is acknowledged that the use of the junction will intensify temporarily during the construction of the proposed development and appropriate controls will be implemented to ensure that construction traffic can emerge safely onto the public highway. These measures are detailed later in this document.

2.7 Hafod Road connects at its southern end with the B5426 Bangor Road and this junction is located only 200m from junction 2 of the A483. This allows for the swift movement of construction traffic to and from the strategic highway network, avoiding the need to impacting on nearby residential and other sensitive areas.

2.8 Hafod Road is a single carriageway road. It varies in width, being around 6m to 7m wide between the Hafod House Farm Lane and Bangor Road junctions. The carriageway width is sufficient to safely accommodate construction related traffic.

2.9 National speed limits apply but traffic speed is known to be below these limits. A speed survey was undertaken by Ymddiriedolaeth Cymru National Trust as part of its preparation for the construction of the Hafod y Bwch Commemorative Woodland, which recorded 85th percentile speeds of 26mph. The speed survey was located approximately 400m to the north of the application site, near the Hafod Woodland car park. However there is no reason to suspect that traffic speeds are significantly different on the approaches to the Hafod House Farm Lane junction.

3 Proposed Development

3.1 The proposed development layout is shown in Appendix 2.

Appendix 2 Proposed Development Layout

3.2 The proposed works will comprise of:

- Solar photovoltaic (PV) panels, mounted to a railing sub-structure;
- Six Inverter/transformer stations;
- Customer and DNO substation;
- Temporary construction compound;
- Compacted gravel tracks (constructed on a sub layer geogrid membrane) to allow vehicular access around the array and substation; and
- Underground cabling to connect the panels to the substation.

Construction Programme & Traffic Generation

3.3 An indicative 16-week programme for the construction works is provided in Appendix 3. The programme also shows the anticipated number of HGV delivery movements throughout the course of the construction works.

Appendix 3 Indicative Construction Programme

3.4 A total of some 216 HGV deliveries is expected over the course of the 16 weeks. As an average this equates to around 14 deliveries per week or 3 deliveries per day. Of course, the number of daily HGV deliveries will fluctuate depending on the stage of construction.

3.5 To provide a robust assessment of HGV traffic at different points within the construction phase, it has been assumed that the total number of HGV deliveries for each programmed task will occur within the first week of that task. For example, some 20 HGV deliveries are expected during the erection of solar array frames, which is programmed over six weeks. We have assumed that those 20 deliveries will occur during the first week rather than spread over the six-week period. Our assumptions therefore are based on deliveries for each task being concentrated into shorter timeframes than are likely to occur in practice. This allows for a worst-case assessment.

3.6 The most intensive period of HGV traffic is expected to occur during Week 2, when up to 31 HGV movements per day are expected. Assuming that these deliveries arrive at a constant rate throughout the day, this equates to around four HGV movements per hour, or one every 15 minutes or so (see Figure 2).

3.7 It is expected that a maximum of up to around 25 personnel will be working on site during the construction phase. It is typical that construction personnel travel to and from site in a works mini-bus, vans or shared cars. Based on a worst case average vehicle occupancy it is expected that the personnel might generate some 12 or 13 vehicle arrivals at the start of the working day and the same number of departures at the end of the day. These are in addition to the HGV movements outlined in Figure 2. Adequate parking space will be provided within the temporary compound area in order to avoid any parking on the public highway.

3.8 The largest anticipated vehicles that will access the site during construction will be flat-bed lorries, low-loaders and articulated lorries. No abnormal indivisible loads (AIL) are expected.

3.9 Following the completion of construction, the operation of the solar farm will generate little traffic. Operational traffic will be limited to occasional visits for management and maintenance of the site with the volume of traffic being comparable to that generated by the existing agricultural use of the land.

4 Vehicular Access Arrangements

Site Access

4.1 Construction traffic will access the site from Hafod House Farm Lane.

Appendix 4 Proposed Access Arrangement

4.2 As has been identified previously, visibility of approaching traffic for drivers leaving Hafod House Farm Lane is restricted. To ensure that construction traffic can move safely from the lane into Hafod Road, traffic control will be in place for the duration of the construction period. This could take the form of operatives with stop-go boards or, more likely, temporary traffic signals. A banksman will be permanently located at the junction to ensure the efficient and safe operation of the junction.

4.3 The banksman at the junction will also communicate with the main site to advise departing traffic when it is clear to enter Hafod House Farm Lane. Departing HGV traffic will be held on site until such time that the banksman confirms that Hafod House Farm Lane is clear of any arriving traffic. This will ensure that opposing traffic does not meet along the lane.

4.4 A construction compound will be located within the site, near to the access. This will provide in area for accepting deliveries, storing materials, providing space for delivery vehicles to turn and parking vehicles clear of the public highway.

4.5 Following the construction phase the solar farm will generate very little operational traffic. This will be limited to occasional maintenance visits by personnel travelling in vans. The volume of traffic generation during the operational phase will be comparable to that of the existing agricultural use of the land.

5 Construction Traffic Management Measures

5.1 This section outlines the intended construction traffic management measures that could be introduced to mitigate any impacts resulting from the proposals, specifically during the construction phase.

Access Route

5.2 Deliveries will be made by road and will arrive locally via the A483. In identifying a route for HGV construction traffic movements between the site and the strategic highway network, the following criteria has been adopted:

- Avoid sensitive areas wherever possible. Sensitive areas include roads that travel through residential areas, past schools or hospitals or areas that are known to suffer from traffic congestion; and
- Use higher classification roads in preference to C-class and unclassified roads.

5.3 The location of the site and its proximity to junction 2 of the A483 is beneficial in this regard and HGV construction traffic will travel directly between the site and the A483, avoiding any areas that are sensitive to traffic impacts. Traffic departing the site will not be permitted to turn right onto Hafod Road nor to turn right onto Bangor Road from the Hafod Road junction.

5.4 The intended delivery route will be communicated to sub-contractors and suppliers and adherence to the specified route will be a condition imposed on suppliers.

5.5 Any impacts associated with construction traffic will be temporary and short lived, with the most intensive period of HGV traffic expected to occur during the initial weeks when a maximum of 31 HGV movements per day are expected. Assuming that these deliveries arrive at a constant rate throughout the day, this equates to around four HGV movements per hour, or one every 15 minutes or so.

Traffic Management Measures

5.6 In addition to the traffic control measures at the site access and designated HGV delivery route described above, temporary signage will be erected on the approaches to the site entrance to:

- Warn Hafod Road users of the increased HGV activity on the construction traffic route together with dates for the start and end of the construction activity;
- Advise delivery drivers approaching the site of the correct route, and access point; and
- Provide details of how the contractor can be contacted during working hours and in the event of an emergency.

5.7 The precise location of temporary signage will be agreed between the Applicant / Principal Contractor and Highway Authority.

Highway Condition Surveys

5.8 Prior to any construction on the site a highway condition survey will be undertaken with photographic records of the condition of Hafod Road, between the site and the Bangor Road junction. This will be repeated upon completion of the works. Should the post-construction condition survey identify any defects in the highway's condition that have been caused by the construction works and traffic, the contractor will discuss and agree the appropriate remedial measures with the Highway Authority.

Parking Arrangements

5.9 There is ample space within the site to accommodate all construction related parking demand and to accept delivery lorries within the site. No parking or unloading on the public highway will be permitted.

Road Cleaning

5.10 During periods of the construction there is a risk of transporting spoil (through dirty wheels) on to the road network and to mitigate this risk wheel-wash facilities will be provided.

5.11 During dry periods, damping down exposed excavations and transitional surfaces will be adopted as and when required to prevent mud / site debris from vehicles leaving the site contaminating the local highway network, whilst also helping to suppress dust.

5.12 The condition of the highway near the site access will be continually monitored. If the need arises, road sweepers will be deployed to clear the road surface.

Site Set-up

5.13 The following measures will be adopted to safely control access to the site and manage the movement of vehicles and construction plant within it.

- Adequate parking area to be provided within temporary construction compound within the development to avoid parking on the public highway;
- All drivers must report to the gateman when arriving on site;
- All drivers must adhere to site signage and 10mph speed limit within the site;
- Strictly no reversing without the presence of a trained banksman;
- All drivers must wear full PPE when leaving their vehicle;
- Any lifting equipment e.g. Hiab/Crane must have relevant certificate prior to use on-site & documents must be inspected by the Site Manager;
- Operatives must ensure that plant, machinery, cabins and containers are secured at the end of the working day and keys removed during meal breaks;
- All vehicle drivers must ensure that their wheels are clean prior to entering the public highway;
- Any members of the public attempting to enter the site with a query must be accompanied to the Site Manager's Office.

Work Related Road Risks

5.14 The Principal Contractor will adopt the CLOCS standards to manage work related road risk (WRRR) beyond the boundary of the site. The CLOCS Standard is a national industry standard and sets out a series of requirements for contractors and logistics operators designed to reduce the risk of collisions with vulnerable road users.

5.15 In accordance with the CLOCS standard, it will be a requirement that all suppliers delivering to the site be a member of (or working towards membership) recognised independent audit bodies such as:

- Fleet Operator Recognition Scheme (FORS)
- Van Excellence

5.16 Some of the minimum standards that apply for vehicles are listed below:

- Operators of vehicles over 3.5T to be accredited to FORS (Bronze) or similar
  - 3.5T+ vehicles to have prominent signage fitted
  - 3.5T+ vehicles to have side under-run protection
  - 3.5T+ vehicles to have audible warning when turning left
  - 3.5T+ vehicles to have clear all round vision via CCTV, mirrors etc
- A management and reporting system in place for Collision Reporting
- Driver License checks
- Driver training and development programmes covering the safety of vulnerable road users

6 Summary

6.1 This Construction Traffic Management Plan (CTMP) has been prepared in respect to the proposed development of a solar farm at Hafod Road, Johnstown, Wrexham.

6.2 A total of some 216 HGV deliveries is expected over the course of a 16-week construction period. As an average this equates to around 14 deliveries per week or 3 deliveries per day.

6.3 Construction traffic will access the site along a specified route that avoids sensitive areas and favours higher classification roads as much as possible.

6.4 A number of measures, including traffic control, the deployment of banksmen and the erection of temporary warning signs, are proposed that will manage the movement of construction traffic into and out of the site.

6.5 The details contained within this CTMP will minimise its impacts on the surrounding highway network during the construction period.

Appendix 1 Location Plan

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NOTES

Legend

- Planning Boundary
- Landowner Boundary

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CLIENT: National Trust
PROJECT: Hafod Road Solar
LOCATION: Wrexham

PROJECT No.: E05797
SCALE: 1:12,100 (A3)

DRAWING TITLE: Figure 2 - Site Location

DRAWING No.:
SHEET: 0
REVISION: A

Appendix 2 Proposed Development Layout

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N

Legend

- Planning Boundary
- Survey
- Fence
- Solar
- Temporary Compound
- Access Track
- DNO Substation
- Onsite Substation

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0 20 40 60 metres

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CLIENT: National Trust
PROJECT: Hafod Road Solar
LOCATION: Wrexham

PROJECT No.: E05797
SCALE: 1:1,503 (A3)

DRAWING TITLE: Figure 2 - Site Layout

DRAWING No.:
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REVISION: A

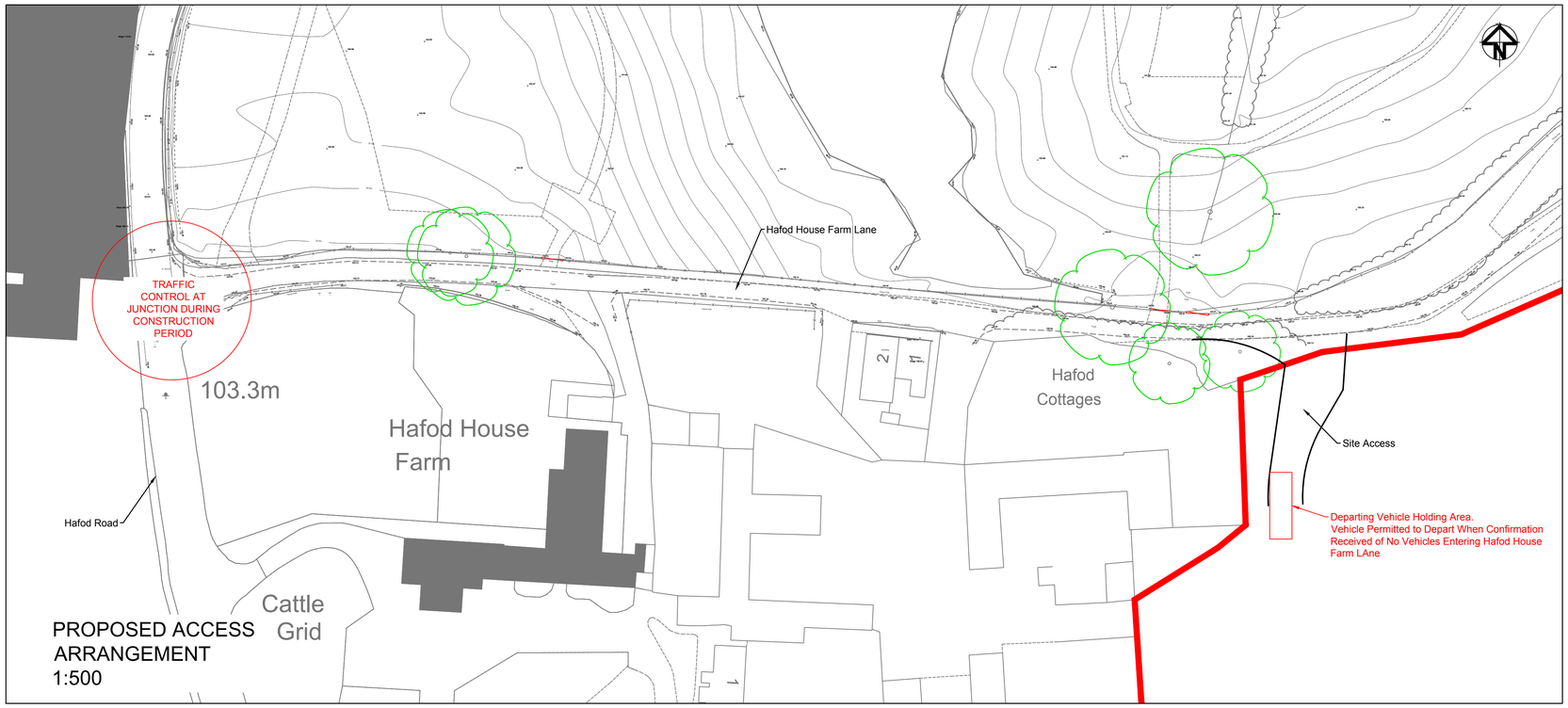
Appendix 3 Indicative Construction Programme

Work	Total No. HGV Deliveries	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Enabling works																	
Delivery of plant + equipment	8	8															
Creation of access track																	
Delivery of Aggregate for access track/compound	76		76														
Concrete for foundations	38			38													
Temporary fencing	5	5															
Site accommodation/welfare	5	5															
Solar Array Construction																	
PV panels delivery	15						15										
Delivery & Erection of frames	20					20											
Solar panel installation																	
Inverters/transformers	10											10					
Cable trenching	1		1														
Electrical connections AC & DC	5											5					
Switchgear and Housing	4											4					
CCTV	1												1				
Commissioning + testing	2														2		
Fencing	8												15				
Site Clearance																	
Removal of site Welfare	5																5
Removal to temporary fencing	5																5
Removal of plant and equipment	8																8
Total	**216**																

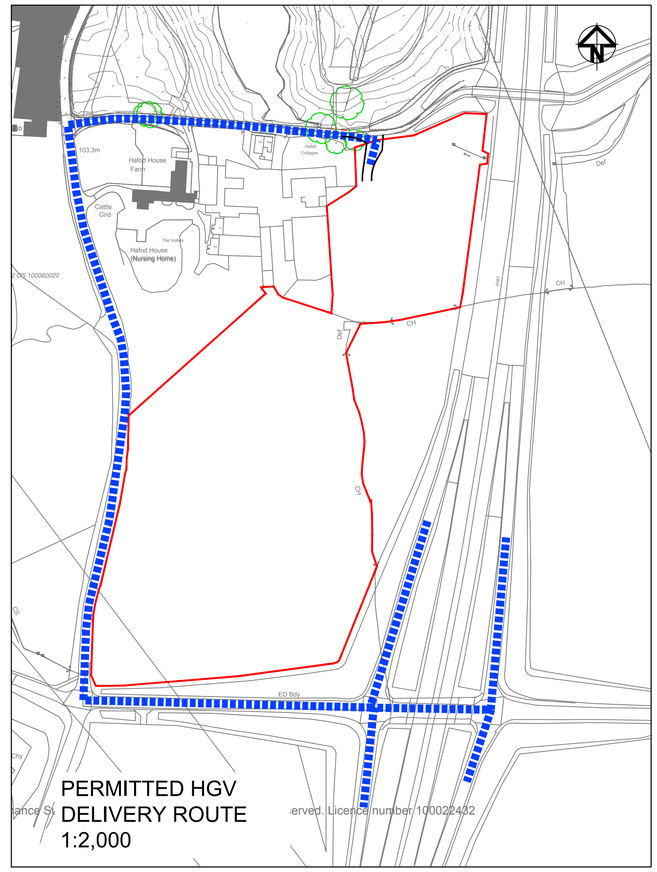
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Total Deliveries per Week	18	77	38	20	0	15	0	0	0	0	19	16	0	2	0	18
Total Deliveries per Day (Assume 5-Day Week)	4	15	8	4	0	3	0	0	0	0	4	3	0	0	0	4
HGV Movements per Day	7	31	15	8	0	6	0	0	0	0	8	6	0	1	0	7

Indicative Construction Programme & HGV Movements

Appendix 4 Proposed Access Arrangement

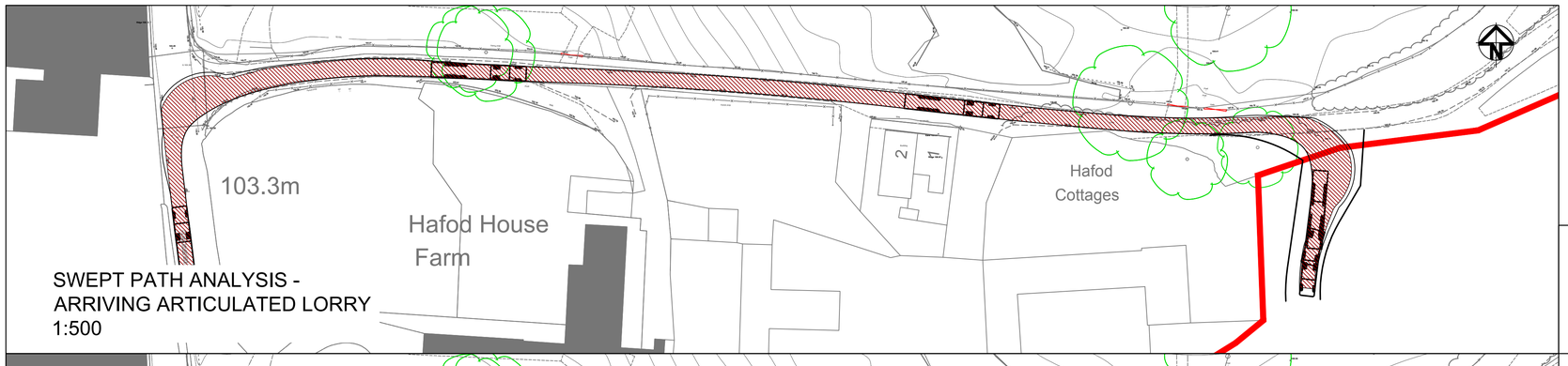


PROPOSED ACCESS ARRANGEMENT
1:500

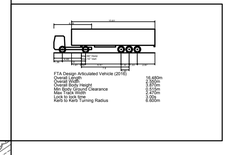


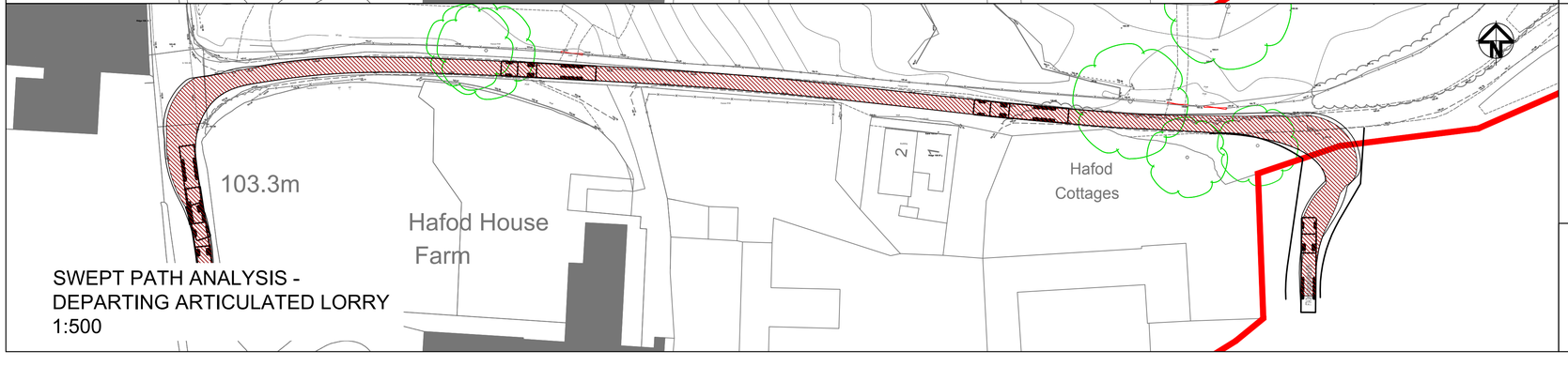
PERMITTED HGV DELIVERY ROUTE
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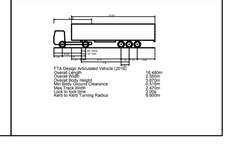


SWEPT PATH ANALYSIS - ARRIVING ARTICULATED LORRY
1:500





SWEPT PATH ANALYSIS - DEPARTING ARTICULATED LORRY
1:500



A	First Issue	10-04-25

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Project	HAFOD SOLAR FARM
Drawing	PROPOSED ACCESS ARRANGEMENT
Drawing No.	1858-ACS-XX-ZZ-DR-T-001-A
Scale	AS SHOWN @ A1

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