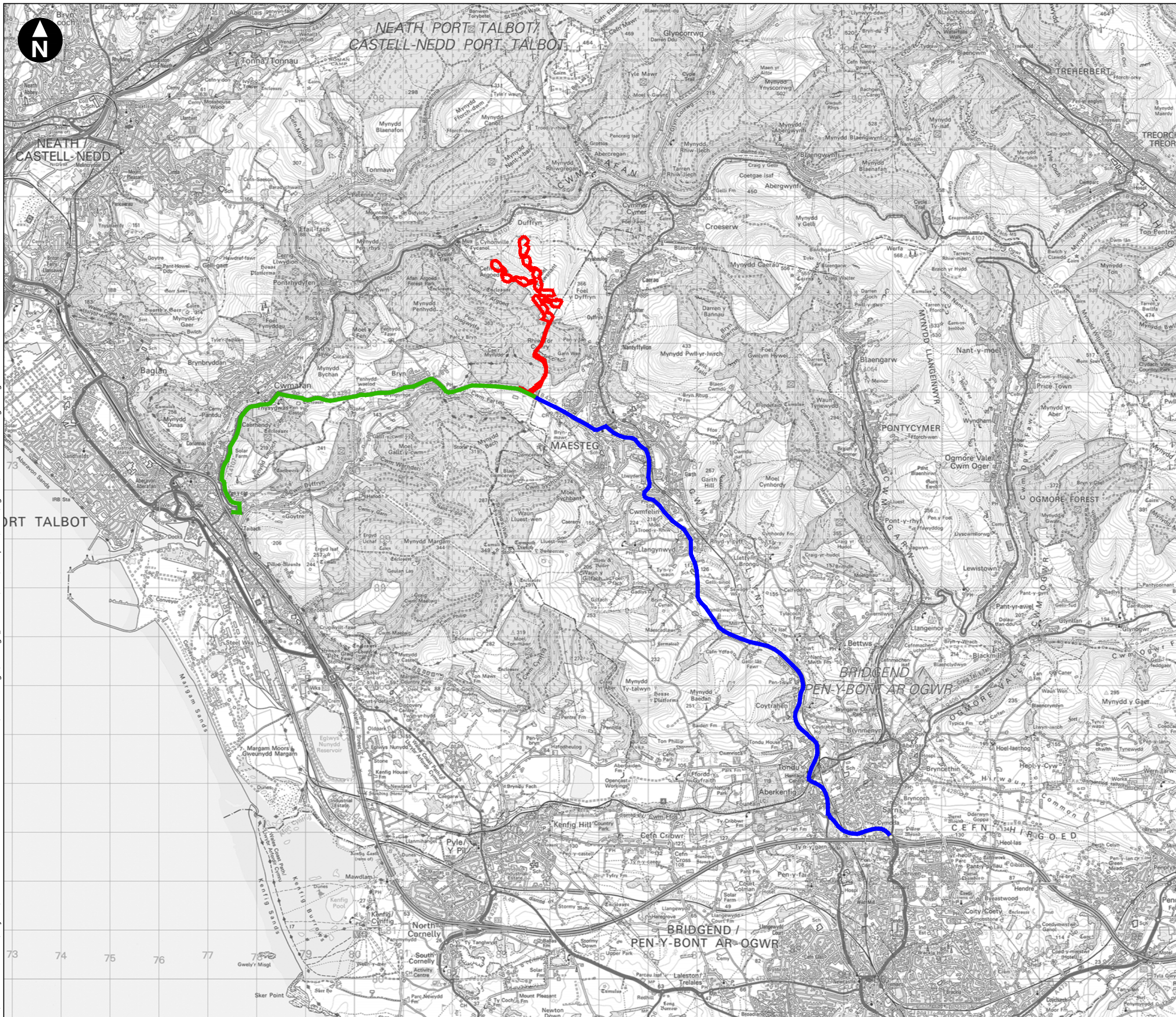


H:\SAL-ES12-SHARED\Projects\807561 Foel Trawnant Wind Farm ES addendum\Deliver StageD Design_Technical\Data\Transport\CTMP\Figures\40217-Shr107.dwg Originator: ADAM.GUY



- Key
-  Planning boundary
 -  Route 1
 -  Route 2

0 km 4 km

Scale 1:75,000 @ A3

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Pennant Walters (FoelT) Ltd
Foel Trawnant Wind Farm S73 Application
Construction Traffic Management Plan

Figure 2.2
Construction material supply routes

March 2022



3. Policies, procedures and due process

3.1 Normal loads

The co-ordination and notification of accommodation works and road closures is covered under the New Roads and Street Works Act of 1991 (2008 revision) with Section 12 of the Act providing information on the procedure. In summary, NPTCBC, BCBC and SWTRA will be required to co-ordinate temporary traffic orders and works in the highway with other authorities and the emergency services.

Pennant Walters (FoelT) Ltd is required to give at least three months' notice of temporary road closures and traffic management procedures. This will allow the highway authority sufficient time to advertise and process the appropriate orders and notify the emergency services and other traffic authorities.

3.2 Abnormal loads

The following is a review of current procedures for the movement of abnormal loads by road, and sources for further information and formal notifications. A review of these procedures will be made by the appointed haulage contractor and Pennant Walters (FoelT) Ltd prior to the delivery of the turbines to ensure that the correct procedures are followed and approvals obtained.

Key to the successful management will be early and continuous communication with the NPTCBC, BCBC, SWTRA and SWP.

This section of the report provides an overview of the relevant policies and procedures related to the movement of abnormal loads.

An 'abnormal indivisible load' is defined in the Road Vehicles (Authorisation of Special Types) (General) Order 2003 as a load that cannot, without undue expense or risk of damage, be divided into two or more loads for the purpose of being carried on a road and that:

- On account of its length or width, cannot be carried on a motor vehicle of category N3 or a trailer of category O4 (or by a combination of such vehicles) that complies in all respects with Part 2 of the Construction and Use Regulations; or
- On account of its weight, cannot be carried on a motor vehicle of category N3 or a trailer of category O4 (or by a combination of such vehicles) that complies in all respects with Authorised Weight Regulations (or if those Regulations do not apply, the equivalent provisions in Part 4 of the Construction and Use Regulations); and Part 2 of the Construction and Use Regulations.

The approved haulage contractor will be required to consult with the appropriate authorities in order to ensure that all relevant permissions are obtained prior to the transportation of any abnormal loads. The responsibility for ensuring that a route is suitable for the transportation of abnormal loads and ensuring the correct notifications are given rests with the haulier.

Department for Transport

The Department for Transport (DfT) sets out the requirement to notify several authorities (with direct or delegated responsibility for maintenance of roads and bridges) that works may be required to their infrastructure before the movement of an abnormal load, including:

- Local Highway Authorities along the access route;
- Welsh Government; and

- Police force abnormal load officers.

Notification forms and details of the procedures are available at:

- <http://www2.dft.gov.uk/pgr/roadsafety/drs/drivingforwork/largeorheavyloads/backgroundanddefinitions.html>

South Wales Trunk Road Agency

SWTRA acts as an agent to the Welsh Government and is responsible for the trunk roads in South Wales. For the previous 2014 submission Andy Cochrane provided a detailed scoping response on the project from the Welsh Government. The detailed response sets out a number of key points as follows:

- No planning application for a wind farm development should be determined until a TMP has been agreed with all relevant highways authorities.
- A TMP should be based on documented trial runs that mimic the movement of the longest, widest and highest anticipated loads as agreed with the relevant local highways authorities. The trial run must be escorted by the police and witnessed by the relevant highways authorities and recorded with full video coverage.
- Before a trial run, a Trial Traffic Management Plan (TTMP) is required to enable the police to agree the details and decide how to manage this. The purpose of the TTMP is to identify any constraints where the trial vehicle is unlikely to pass without a reduction in size or length. The TTMP must be approved by the police and all relevant highways authorities;
- The applicant must apply for Temporary Traffic Regulation Orders (TTRO's) for each section of the route where the police may need to stop or hold traffic. This may involve applying to multiple highways authorities.
- The TMP should be a stand-alone document.

Andy Cochrane then also set a scope for what the TMP should cover:

- Introduction – background, number of turbines, scope of TMP.
- Context – relevant policy framework, legislative context for abnormal loads, any relevant studies.
- Description of route – detailed description of the access route from port of entry, identify the types of roads and characteristics, background traffic flows, cumulative assessment (if required) and consideration of alternative methods of travel.
- Convoy size – number and sizes of loads, possible convoy composition including private and police escort.
- Traffic management – methodology for moving convoys whilst minimising delay, outline design and location of holding areas, passing places, plans showing where traffic might be held, contingency plans.
- Delivery times – estimated journey duration based on convoy speeds, delays to negotiation constraints and assumed arrival departure times at residential communities. Forecast queues of other traffic based on background traffic data. Consideration of turbine deliveries to other wind farms (if relevant).
- Highways works – location, nature and details of all potential horizontal and vertical constraints such as junctions, bends and steep gradients. Swept path assessments based on topographical survey data. Bridges and critical constraints. Outline design of improvements such as bend

widening or junction modifications. Consideration of vehicles without manual rear steered vehicles, cross sections and long sections of works beyond the highways boundary.

- Structures - carriageway width at all highways structures, headroom at all over bridges supplemented by vertical swept path analysis. Indication of assumed axle/vehicle loading, proposals for assessing the impact on highways structures, non-highways structure and buildings, embankments and slopes affected by the loads. Identification of listed structures.
- Trial runs – documented trials runs, mimicking the movements of the worst load, witnessed by the relevant highways authorities and videoed.
- Public awareness – proposals for consultation with local communities.
- Environmental impact – all physical works and operation along the extend of the transport route to be considered as part of the environmental statement.
- General construction traffic – details of all non-abnormal loads forecast to travel to and from the site, route choice for these vehicles, anticipated times of movements through sensitive locations, cumulative impact with other developments.
- Consultees for TMP – List to include all affected highways authorities and police forces.

When the proposed haulier is confirmed much of the information above will be agreed with the SWTRA/WG.

Neath Port Talbot County Borough Council

A scoping response to the previous Environmental Impact Assessment Scoping Report (Amec¹, 2012) was received by Geoff White (then) Head of Planning Services at NPTCBC. Geoff collated scoping responses from numerous elements of NPTCBC and one of these was received from the Head of Engineering and Transport (Highways).

The response stated that NPTCBC had no objection to the content of the scoping report however they advised that a TMP will be required and should include the information that was proposed by Andy Cochrane set out above.

It was also recommended by NPTCBC that the decommissioning phase should be considered as this would lead to a rise in additional vehicles to and from the site.

The appointed haulier will liaise with the East Team Leader (Nicola Lake) and the head of the Engineering and Transport (Highways) team directly prior to the transfer to discuss the detailed information that was required in the TMP by the Welsh Government.

For this revised application, the approach to be taken on transport and traffic was set out in the Scoping Notice that was sent to NPTCBC in December 2021². The approach was also discussed at a meeting with the Council on 17 February – no comments or responses were received from the Council requesting a change or addition to the scope of works. It was noted that there had been no trial run of the abnormal loads along the proposed route and that this will have to be undertaken and the results submitted for approval as part of the planning application. Pennant Waters (Foelt) Ltd and/or the appointed haulier will liaise with NPTCBC to address this prior to commencement of the development, as per planning condition 6 of the Decision Notice (DN P2014/0825).

¹ Now Wood

² Wood (2021). Foel Trawsant Wind Farm: Proposed Environmental Scope for S73 Planning Application.

Bridgend County Borough Council

A detailed scoping response to the previous Environmental Impact Assessment Scoping Report (Amec, 2012) was received from Alex Cary, Transportation Development Control Officer, and the following comments were made:

- the WG in liaison with the SWP have established a “Best Practice Policy” in relation to creating safe transport routes for the delivery and removal of wind turbine components at development sites. The applicant is advised that he will be required to follow the best practice protocol as follows;
 - ▶ SWP are likely to require TTRO for any abnormal loads that need to be escorted along the public highway. The applicant will be required to fully fund any such order, which shall extend along the whole delivery route.
 - ▶ A TMP will need to be submitted and approved in advance of any HGV and abnormal loads being transport and escorted. The applicant will be expected to confirm within these submissions if the SWP require TTRO and if they are satisfied that the TMP follows best practice.

Alex Cary also set out that, as part of any further detailed application, the applicant will need to consult with the Highways Structures Team leader on an abnormal loads route that passes through BCBC. Technical specifications based on vehicle weight, length and height will be required together with frequency of movement and the duration of any abnormal loads delivery schedule. This information will be used to understand the impact on the following highways structures:

- A4063 – Llwydarth Road culvert, Maesteg;
- A4063 – Nant y Gadlys culvert, Llangynwyd;
- A4063 – Nant Gwyn culverts, Llangynwyd (two culverts);
- A4063 – Nant Cefnyda culvert, North of Coytrahen;
- A4063 – Maesteg Road tramway bridge, Tondu;
- A4063 – Pandy Park Subway, Aberkenfig;
- A4063 – Pont Persondy river bridge, Aberkenfig;
- A4063 – Persondy road subway, Aberkenfig; and
- A4063 – Rail Bridge, Sarn (additional liaison with Network Rail will be required).

Alex Cary also set out locations along the route from the M4 to the site that may be difficult to negotiate:

- Right turn manoeuvre at the signalised junction from the A4063 to B4282, Maesteg;
- Manoeuvres around the road bend along the A4063 Tondu, either side of the Network Rail bridge. There are traffic islands with signal heads located in the centre of the carriageway;
- Right turn at the roundabout from the A4063 Sarn Bypass onto the A4063 Aberkenfig Bypass;
- A pedestrian refuge is located within the A4063 in Coytrahen which narrows both lanes to around 2.9m;
- The straight ahead along the A4063 through the roundabout serving the Heol Neuadd Domos estate in Cwmfelin; and

- The gradient of the B4282 Neath Road between Commercial Street and Heol Ty Gwyn rises steeply in an east to west direction. Abnormal loads may find it difficult to climb this 1 km long incline.

The Applicant will also be expected to implement a temporary traffic management scheme along the B4282 on the approaches to the site access during construction and decommissioning. Such a scheme is envisaged to consist of a temporary reduction in speed limit, advanced warning signs, banksmen/signals etc.

A construction method statement will need to be submitted which includes the details of traffic movements generated to and from the site (with reference to intensive days such as concrete pours).

Details of all further maintenance and servicing schedules and the decommissioning/removal operation will also be required.

South Wales Police

SWP abnormal loads officer (Leigh Lewis) has not been contacted at this stage. The contact details for SWP abnormal loads officer are:

- Email: Abnormal.loads@south-wales.pnn.police.co.uk

The appointed haulier should contact the number above in the first instance to provide final details of the number of abnormal load movements, the time scales for delivery and to inform the police of any potential changes to the proposed route. The appointed haulier would also discuss any outstanding traffic management issues and provide confirmation of an appropriate methodology for dealing with them.

4. Transport management plan requirements

4.1 Site access

The site access is proposed from the B4282 and all construction vehicles will use this point.

As part of the proposals, the access will be designed to accommodate all anticipated abnormal load vehicles including a blade lifter vehicle arrangement carrying a 67m blade. The site access will be illuminated in the interests of safety and visibility and the proposed 'grasscrete' over-run areas will be designed to accommodate all anticipated loads.

The site access and on-site access tracks would be retained throughout the life of the development to provide controlled access for maintenance vehicles.

Given the estimated volume of HGV traffic movements and the relatively low volume of traffic currently using the B4282, it is considered that the provision of temporary signage will be sufficient to inform both the public and hauliers as to the location and nature of the site entrance. Deliveries would ideally be scheduled outside peak traffic periods where possible.

It is not anticipated that any permanent traffic control will be necessary on any of the approach roads, although appropriate signage will be in place to direct construction traffic. All signage installed will be compliant with DfT's Traffic Signs Manual Chapter 8: Traffic Safety Measures and Signs for Road Works and Temporary Situations.

During the delivery phase of abnormal loads, access to the site will be controlled by trained traffic management operatives employed by the haulier and the police. Traffic control will take the form of either temporary traffic lights or 'stop' and 'go' boards. The times and dates when this measure will operate will be supplied and agreed by the relevant local highways authorities seven days prior to the event and on every occasion. Mitigation to highway infrastructure and traffic management control will require liaison between the hauliers and these parties.

Access to the site will be controlled by a security guard and secured when not in use, with a lockable gate, to prevent unauthorised access outside of operating hours. It will be the responsibility of the Principal Contractor to ensure that the gate is open when deliveries arrive at the site to ensure no vehicles are left waiting within the carriageway causing obstruction and delay to other road users.

4.2 Adjustment to existing highway layout for abnormal delivery

During the delivery phase, adjustments to the existing local highway network will need to be made to accommodate the swept path of the abnormal load vehicles. A swept path analysis has been undertaken on the route abnormal loads will take into site, identifying what adjustments will be needed to the existing highway infrastructure. As already identified, abnormal loads will route via the M4, A4063 and the B4282. The swept path analysis drawings are contained in **Appendix B**. It should be noted that the assessments set out in the drawings in **Appendix B** represent a worst-case assessment as evidence from working with haulage companies show that in general, movements can be made more efficiently than replicated in Autotrack.

A4063 Commercial Street/B4282 Neath Road – Maesteg

Turning at this junction will be undertaken by the AIL delivery vehicles for the nacelle and hub using an extendable trailer arrangement. Vehicles transporting the blade component will also make a left turn manoeuvre at this junction using a blade lifter vehicle arrangement, this is summarised in the section *Enercon Route Survey Report Summary*.

As shown on drawing no. 807561-WOOD-DR-OT-00005_P01 (**Appendix B**), there will be no requirements for accommodation works to allow transit of the nacelle or hub.

A4063/A4065 (Railway Bridge)

As shown in drawing no. 807561-WOOD-DR-OT-00003_P01 (**Appendix B**), traffic management procedures will be required at this location to negotiate the bend, as the swept path of the abnormal load will require the temporary removal of street furniture at three locations and will oversail the opposite side of the carriageway and block opposing traffic during transit.

There will be vehicle load overhang onto the footpath on the western side of the carriageway, adjacent to the railway bridge. No physical impact is expected at this location; however the movement of pedestrians should be managed during the passage of the abnormal load vehicle.

There is expected to be vehicle body and load overhang over a central island on the A4063 eastern approach to the junction. To accommodate passage of the abnormal load vehicle a traffic signal column, a street lighting column, pedestrian guard railing and an illuminated bollard may need to be temporarily removed.

Mid junction, immediately east of the railway bridge a central island is expected to be required to be overrun by the abnormal load vehicle. This will require the temporary removal of street furniture including a traffic signal column, a street lighting column, directional signage, and an illuminated bollard.

West of the Railway bridge the Abnormal load vehicle is expected to be required to overrun and oversail a central island mid junction. This will require a traffic signal column, pedestrian guard rails and an illuminated bollard to be removed.

When a haulier is confirmed, discussions should be undertaken with Network Rail regarding the conveyance of the AIL under the rail bridge.

A4063/B4281

As shown in drawing no 807561-WOOD-DR-OT-00004_P01 (**Appendix B**), the abnormal load will be able to negotiate the junction by turning immediately right into the roundabout, against the flow of traffic into the A4063 north arm, eliminating the need to cross the roundabout and the extensive mitigation that such a manoeuvre would require. The AIL vehicle will require overrun across the central reservation on the A4063 east approach, and to accommodate this, road signage and a section of Armco barrier will need to be temporarily removed.

There will also be a vehicle body overhang into verge on the eastern side of the A4063 north arm and overhang to the south of the A4063 on the east arm approach. Overhang is expected to have no impact on the A4063 north arm and overhang south of the A4063 on the east arm approach may require some trimming of trees/hedgerow.

A4063/Heol Neuadd Domos Junction

Turning at this junction will be undertaken by the AIL delivery vehicles for the nacelle and hub using an extendable trailer arrangement. Vehicles transporting the blade component will also make a left turn manoeuvre through the roundabout junction between the A4063 south and A4063 north arms using a blade lifter vehicle arrangement, this is summarised in the section *Enercon Route Survey Report Summary*.

As shown in drawing 807561-WOOD-DR-OT-00002_P01 (**Appendix B**), the nacelle and hub are expected to overhang the verge and central islands on the A4063 northern and southern arms through the junction. No impacts are expected.

A4063 north of Coytrahen

As shown in drawing 807561-WOOD-DR-OT-00006_P01 (**Appendix B**), the abnormal load vehicle is required to negotiate a left hand bend on the A4063 north of Coytrahen. It is expected that the full movement of the abnormal load vehicle can be accommodated with the carriageway through this bend. The movement will require the full width of the carriageway and as such vehicle escorts will be required to temporarily stop southbound traffic to ensure the manoeuvre can be completed.

Enercon Route Survey Report Summary

Enercon commissioned Richtie Services Ltd to undertake route survey to understand the feasibility and potential impacts of delivering a 57m blade to the Foel Trawsnant Wind Farm from the M4 with the assumption that the port of entry is either Swansea or Avonmouth; the report is provided in **Appendix C**. The report identifies that the most suitable route from the M4 would be as follows:

- M4 junction 36;
- A4063 via Tondy, Coytrahen, Pont Rhyd-y-Cyff and Maesteg (into town centre);
- B4282 Neath Road; and
- B4282 to Site Access.

The route survey report highlights five points of reference along the route identified as:

- Reference point 1 – A4063 from M4 to layby north of Coytrahen;
- Reference point 2 – Layby located on the western side of the carriageway on the A4063 north of Coytrahen;
- Reference point 3 – A4063 and B4282 to site;
- Reference point 4 – B4282 Neath Road/A4063 Commercial Street junction; and
- Reference point 5 – B4282/Site access.

The report provides either a short summary or comment at each reference location setting out potential impacts.

At Reference point 1 the report states that the route between the M4 and the layby located on the A4063 is acceptable for conventional trailers (extendable trailer carrying blade) should necessary modifications to the highway be made, including accommodation works at the A4063/B4281 roundabout.

At Reference point 2 the report states that the layby located on the A4063 would be a suitable place to tranship the blade from a standard extendable trailer to a blade lifter arrangement.

At Reference point 3, the remaining route from the A4063 to site via the B4282 is to be undertaken using the blade lifter arrangement where the angle of the blade is adjusted to lift the blade to an angle where constrained junctions can be negotiated.

Reference point 4 highlights the constrained A4063 Commercial Street/B4282 Neath Road junction. The report states that there are no overhead structures located through the junction preventing the blade lifter vehicle arrangement to pass. A swept path assessment of this junction was undertaken by Enercon to support the Route Survey Report, this is provided in **Appendix C**. The swept path assessment indicates that the blade lifter vehicle arrangement can successfully negotiate the A4063 Commercial Street/B4282 Neath Road junction without requiring significant mitigation. Overhead telephone/utility cables located some 15m west of the junction on the B4282 Neath Road will be required to be temporarily removed for the blade lifter vehicle and load to pass.

At Reference point 5 the report states that the site access is required to be upgraded to accommodate the various component deliveries.

The route survey report concludes with the following summary:

- A review suggests routing between the M4, using an eastern approach on to Junction 36 and the site is suitable, based on the components prescribed in Section 2.
- Delivery of the components would be possible with the methodology prescribed in this report.
- This report is based on use of Nooteboom Superwing Carriers or Similar and Goldhofer FTV500 blade lifter with a blade elevated to 45 Degrees.
- This routing is suitable for components up to 4.95m high when loaded.
- Early discussion should be had with the various stakeholders to confirm acceptance of the street furniture removal.
- The survey is subject to the transport concepts being accepted by the authorities.
- A full survey, including Swept Path Analysis would be recommended as a next step.
- A recommendation that a trial run is completed prior to the transport of main components.

Following the findings of the Enercon route survey report it is proposed that the 67m blades expected for delivery to the Foel Trawsnant site will be delivered using the methodology identified in the Enercon Route Survey Report where a standard extendable trailer will transport the load to the layby located on the A4063. At this layby the blade will be transhipped from the trailer to a blade lifter arrangement for transportation through the more constrained section of route through Maesteg.

It is assumed that where there is sufficient space to do so, the blade lifter can change the angle of the blade to negotiate telephone cables located along the A4063 and B4282 throughout Maesteg. The angle of the blade will be raised for the constrained B4282/A4063 junction in Maesteg Town Centre and to negotiate the A4063/Heol Neuadd Domos Junction located south of Maesteg. Due to the nature of the blade lifter arrangement and the outcomes of the route survey report it is expected that the clearance the blade lifter vehicle arrangement provides for the blade component through constrained junctions means that there is no impact/mitigation required at the B4282/A4063 junction or the A4063 Heol Neuadd Domos junction.

Additional items

On initial assessment it has been concluded that the works associated with the delivery of the abnormal loads will be accommodated within the highway and the verge (both under highway ownership). Once a delivery contractor is in place, highway ownership plans will be requested from the relevant local authority.

It should be noted that in the previous (2014) application BCBC also raised concerns with two further areas for the conveyance of AIL; at the time Wood did not consider that SPA would be required to address these concerns. These concerns are included in further details below:

BCBC comment - A pedestrian refuge is located within the A4063 in Coytrahen which narrow both lanes to around 2.9m.

Response – Wood undertook a site visit to the area as part of the wider transport work for the planning application and visited Coytrahen. When observing this pedestrian refuge it was noted the road was generally straight in this location, but that the plastic bollards either side of the refuge would need to be removed during the delivery period. The hard standing and concrete stand points for the plastic bollards could however be left in place (as long as they are suitably covered to protect the electric infrastructure for the internal lights).

BCBC comment – The gradient of the B4282 Neath Road between Commercial Street and Heol Ty Gwyn rises steeply in an east west direction. AIL may find it difficult to climb this long 1km incline.

Response - Experience on other wind farm access studies has shown that the maximum gradient accepted by Vestas (one of the world's largest wind turbine developers) is 1:7 (14%). Gradients in excess of this are subject to acceptance by the haulier, but past experience suggests that they do not work with anything steeper than this.

Using Ordnance Survey (OS) contour mapping the junction of the A4063 and B4282 is at 150m, while the proposed access point is at 240m an elevation increase of 90m. The distance between these points has been measured to be 1,602m. The average gradient over this distance is therefore 5.6% or 1 in 18 and within the acceptable limits for AIL conveyance.

Using Google Earth for measurement, the junction of the A4063 and B4282 at Cwmfelin is at 116m, while the Mill Street railway bridge is at 106m an elevation decrease of 10m. The distance between these points has been measured to be 317m. The average gradient over this distance, calculated by Google Earth is -2.7% and is within the acceptable limits for AIL conveyance.

4.3 Vehicle escorts

The SWP and SWTRA will be consulted with regards to vehicle escorts.

SWP will be involved with vehicle escorts upon specific request from the haulier or where it is deemed that a load, due to its size or other extenuating circumstances, necessitates a Police escort.

4.4 Dilapidation surveys

Dilapidation surveys will be required at the start and end of the construction programme to assess any damage to the highway caused by development traffic on the access routes. Dilapidation surveys are expected to be carried out by an independent engineering consultant appointed by Pennant Walters (FoelT) Ltd who will work in conjunction with the relevant parties.

4.5 Scheduling and timing of movements

Schedule

The construction programme will be determined in detail by the appointed contractors. For the purposes of this report, the preliminary construction plan set out in the 2019 ES has been referenced. It assumes that the Proposed Development will be constructed over 12 months with 22 working days per month (5.5 day week, 4 weeks per month). **Table 4.1** sets out the anticipated monthly trips. It should be noted that the timing for the various stages will be subject to agreement with the highway authorities and dependant on progress on site.

Table 4.1 Two-way construction trips per month

Activity	Month												Total
	1	2	3	4	5	6	7	8	9	10	11	12	
Delivery of Plant and Equipment	60												60
Stone for access tracks			536	536	534								1,606
Bitmac for Access Bellmouth		12											12
Stone for Crane Operations				132	134	132	134						532
Stone for Compound base		10	182	270									462
Stone for Substation				60									60
Culvert Materials		2											2
Geo-grid		2											2
Sand			78	78									156
Substation Equipment					40								40
Cabling		4	2										6
Concrete for Turbines						492	492	492	328				1,804
Base Rings					8								8
Formwork and Reinforcing steel				28	28								56
Delivery and Removal of Crane							20				20		40
Turbines							66	66	66	44			242
Removal of Plant and Equipment												60	60
Total	60	30	798	1,104	744	624	712	558	394	44	20	60	

Table 4.2 sets out these monthly trips as a daily estimate, and as above these are the same figures used in the ES chapter.

Table 4.2 Two-way construction trips per day

Activity	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Excluding concrete deliveries for turbine bases*												
Per Day	4	2	36	50	34	6	10	4	4	2	2	4
Turbine Concrete deliveries only												
Per Day						164**	164**	164**	164**			
*Figures rounded up to whole numbers to account for return journeys **Each concrete turbine foundation must be poured in one day. Therefore there are 3 days during month 6/7/8 when 164 HGV movements are required to deal with the concrete for 3 turbines. In month 9 there will be 2 non consecutive days where concrete is required for the construction of 2 turbines. It is assumed that no other deliveries would occur during these days. This figure has been rounded up to the nearest even number to equate for the return journey.												

Included within the construction traffic trips detailed in **Tables 4.1** and **4.2** are the abnormal load trips. The following table sets out the nature of anticipated abnormal load deliveries.

Table 4.3 Abnormal loads

Turbine Section	Abnormal Load Movements per Turbine
Extendible trailer/Blade lifter arrangement for the blades	3
Wide trailer for tower sections	4
Nacelle assembly, drive train and hub	4
TOTAL	11

The abnormal loads will be delivered within the periods identified within **Tables 4.1** and **4.2**, with the precise timings to be determined by the Principal Contractor following discussions with the appointed abnormal loads haulier and the relevant local highways authorities.

Table 4.2 shows the maximum traffic impact associated with the construction of the proposed wind farm is predicted to occur in month 7 of the construction programme due to concrete deliveries. During this month on three non-consecutive days 164 two-way HGV trips are predicted to be generated on each working day (82 vehicles into the site and 82 out). It is assumed that deliveries of other materials will not take place on these three days when concrete is poured.

Table 4.2 also shows that other than the concrete pour days the highest traffic impact of the development will be in month 4 when 50 movements will be anticipated per day resulting in 25 arrivals and 25 departures. This is less of an impact than the concrete pour days, but would occur over a longer timeframe.

It is anticipated that a maximum of 20 operatives are likely to be on site at any one time. The construction staff will travel by various modes of transport and from various locations making trip generations difficult to

predict. As the numbers are comparatively small the impact of these trips is unlikely to have a significant impact on the strategic highway.

Contractors will be encouraged to minimise the impact of travel by considering alternative modes of transport to the site. There is an hourly bus service that runs along the B4282 which can provide a sustainable transport link between Swansea, Port Talbot, Bryn and Maesteg. It is also possible that some workers who reside in Maesteg may choose to walk, however the distance to the site access (and the centre of the site) is outside the current DfT recommended walking distances for work. As such, it is considered that due to the sites rural location, sustainable travel will best be achieved through the promotion of car sharing.

Following the appointment of the main contractor, the developer will submit a detailed Construction Programme to the highway authorities with clear milestones for the CTMP measures.

Timing of movements

In the interests of road safety and reducing possible nuisance, it is proposed that a planning condition is put in place that restricts traffic movements during the following periods:

- no construction activities on Sundays;
- no construction activities on Bank Holidays;
- no construction activities outside the hours of 07:00 to 19:00 Mondays to Fridays; and
- no construction activities outside the hours of 08:00 to 13:00 on Saturdays.

All relevant parties involved in making deliveries to the site would be informed of these restrictions, whilst for other contractors making regular deliveries these restrictions will form part of their contractual obligations. This would be reinforced in the Principal Contractor's site induction and regular talks for site operatives.

4.6 Route timing and enforcement

Timing restrictions for deliveries can assist in ensuring that construction vehicles avoid peak periods in sensitive areas such as schools, and where necessary, areas that experience congestion.

Contractual arrangements with all appointed hauliers will set out the enforcement/disciplinary procedures in the event HGV drivers do not abide by the preferred routes or any timing restrictions.

Road space along the abnormal load haulage routes will be booked in advance in compliance with the New Roads and Street Works Act 1991 (NRSWA). This will be undertaken as a precautionary measure to ensure that all haul roads are free of planned works.

4.7 Route signage

Temporary signage will be installed along the construction route advising construction traffic of the correct route to the site. In addition, and in the interests of road safety, the signage will also assist in advising other road users to be aware of construction vehicles. All new signage will be in accordance with the 2011 Traffic Sign Regulations and General Direction (TSRGD).

Construction traffic will not be allowed to enter the site until the relevant local highway authority has agreed the signage design and confirmed in writing that the required signage is in place.

4.8 Public information

Providing detailed information to local residents and interested groups is a key part of the construction of any wind farm. To ensure that local residents are given the opportunity to obtain information about the project, and offer their views and suggestions, the developer will undertake a variety of engagement methods.

4.9 Wheel cleaning/street cleaning

In the interests of public safety, preventative measures to minimise any mud and debris deposited onto the B4282 will be operated on site and at the site access. The Principal Contractor will arrange activities on site that minimise the carriage of mud and debris and shall provide, maintain, enforce and monitor the performance and proper use of cleaning facilities. The Principal Contractor shall promptly arrange street cleaning equipment either through NPTCBC or direct, when any significant mud and debris is carried onto public roads.

4.10 Vehicle livery/identification

To assist in enforcing this CTMP vehicle livery/identification will be added to contract vehicles making regular deliveries to the site, thereby showing that they are associated with the development. This could simply be in the form of a board displaying the name of the wind farm development and/or Pennant Walters (Foelt) Ltd. An example of such livery/identification is to be submitted to the local planning authority for approval prior to the start of construction. No such construction vehicle will be allowed to enter the site unless it is displaying approved livery/identification.

4.11 Construction management plan

A separate Construction Management Plan (CMP) will be prepared and submitted to NPTCBC (and other relevant highways authorities as relevant). The Construction Management Plan will include measures to control dust and debris resulting from the movement of HGV.

5. Summary

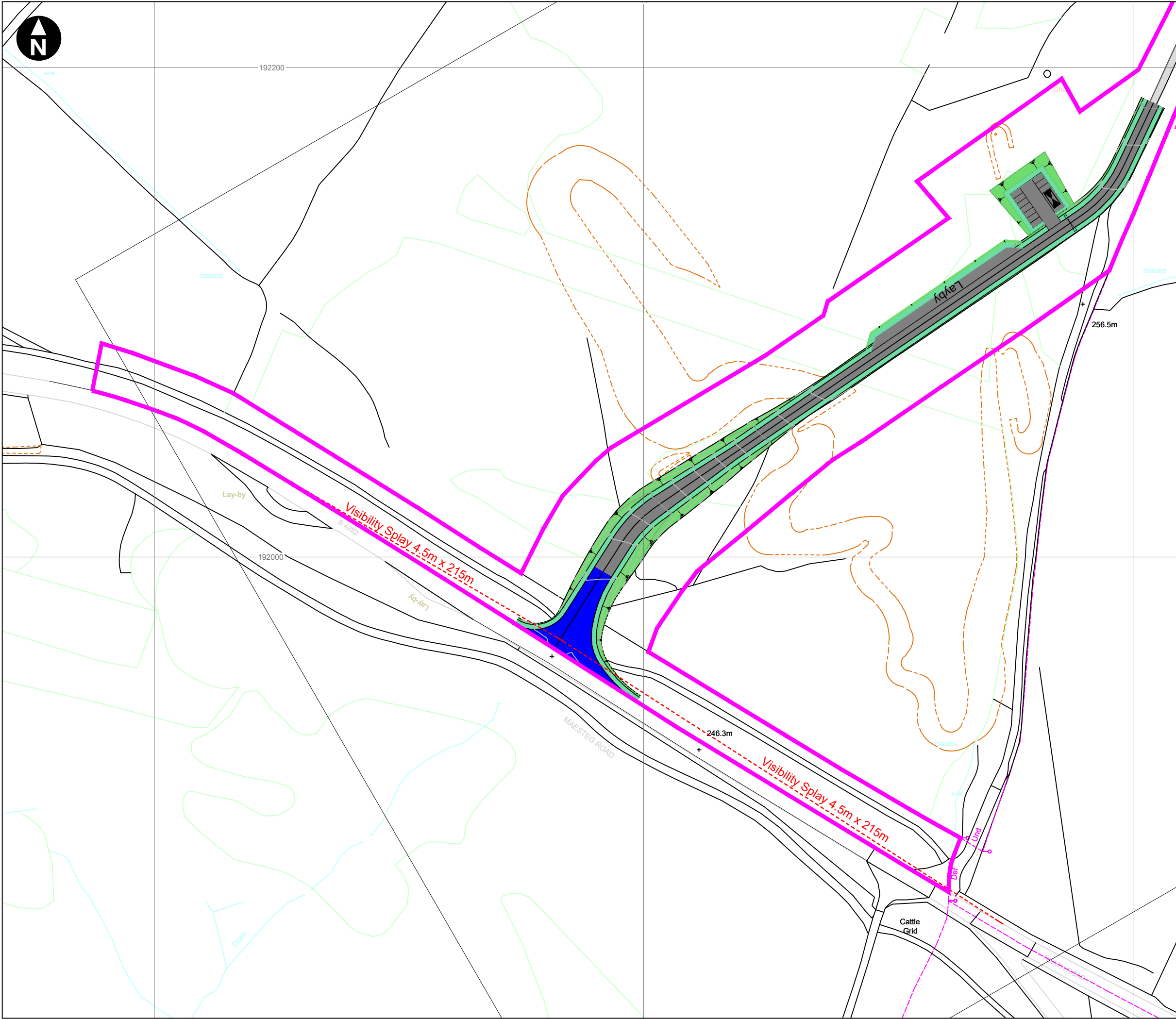
Table 5.1 summarises the measures which have been addressed and acknowledged as part of this CTMP and provides information on further actions required.

Table 5.1 Measures addressed/acknowledged as part of this CTMP and further actions required

Measure	Abnormal Loads	General Construction Traffic	Further Actions
Delivery Routes	✓	✓	Confirmation of delivery route following appointment of hauliers/suppliers
Site Access/Management of Junctions	✓	✓	As per CTMP
Abnormal Load Test Run	✓	Not Required	Dry run to be undertaken on appointment of hauliers
Vehicle Escorts	✓	Not Required	To be discussed by appointed haulier with relevant parties
Timing Restrictions	✓	✓	As per CTMP
Route Enforcement	✓	✓	Standard Contractor enforcement measures to be adopted
Highway Accommodation Works	✓	Not Required	To be agreed by relevant parties subject to requirement following the identification of the wind turbine size/type
Dilapidation surveys	✓	✓	Survey company to be appointed by the contractor
Coordination/Emergency Contact	✓	✓	As per CTMP
Route and Access Signage	Not Required	✓	As per CTMP
Vehicle Livery/Identification	Not Required	✓	As per CTMP
Overhead Lines and Vegetation	✓	Not Required	As per CTMP
Wheel Cleaning/Street Cleaning	Not Required	✓	As per CTMP

Appendix A

Site access design



- Key
- Site Boundary
 - Proposed track
 - Existing track
 - Verge
 - Batters
 - Flexible road construction
 - Prominent contour
 - Normal contour

0 m 75 m
Scale 1:1500 @ A3
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Pennant Walters (FoelT) Ltd
Foel Trawsnant Wind Farm S73 Application
Construction Traffic Management Plan

Appendix A
Indicative Access Design

March 2022
● ● ●



Appendix B

Swept path analysis

H:\SAL-ES12-SHARED\Projects\807561 Foel Trawsnant Wind Farm ES addendum\Deliver Stage\Design_Technical\Data\Transport\CTMP\Appendices\Appendix B\feb 2022\40217-Sht103.dwg
Originator: ADAM.GUY



Key

- Vehicle Wheel Base
- Vehicle Body Overhang
- Turbine Load Outline

Vehicle load overhangs the central island, no impact expected.

Vehicle load overhangs into the verge, no impact expected

Vehicle load overhangs the central island, no impact expected.

0 m 30 m

Scale 1:500 @ A3

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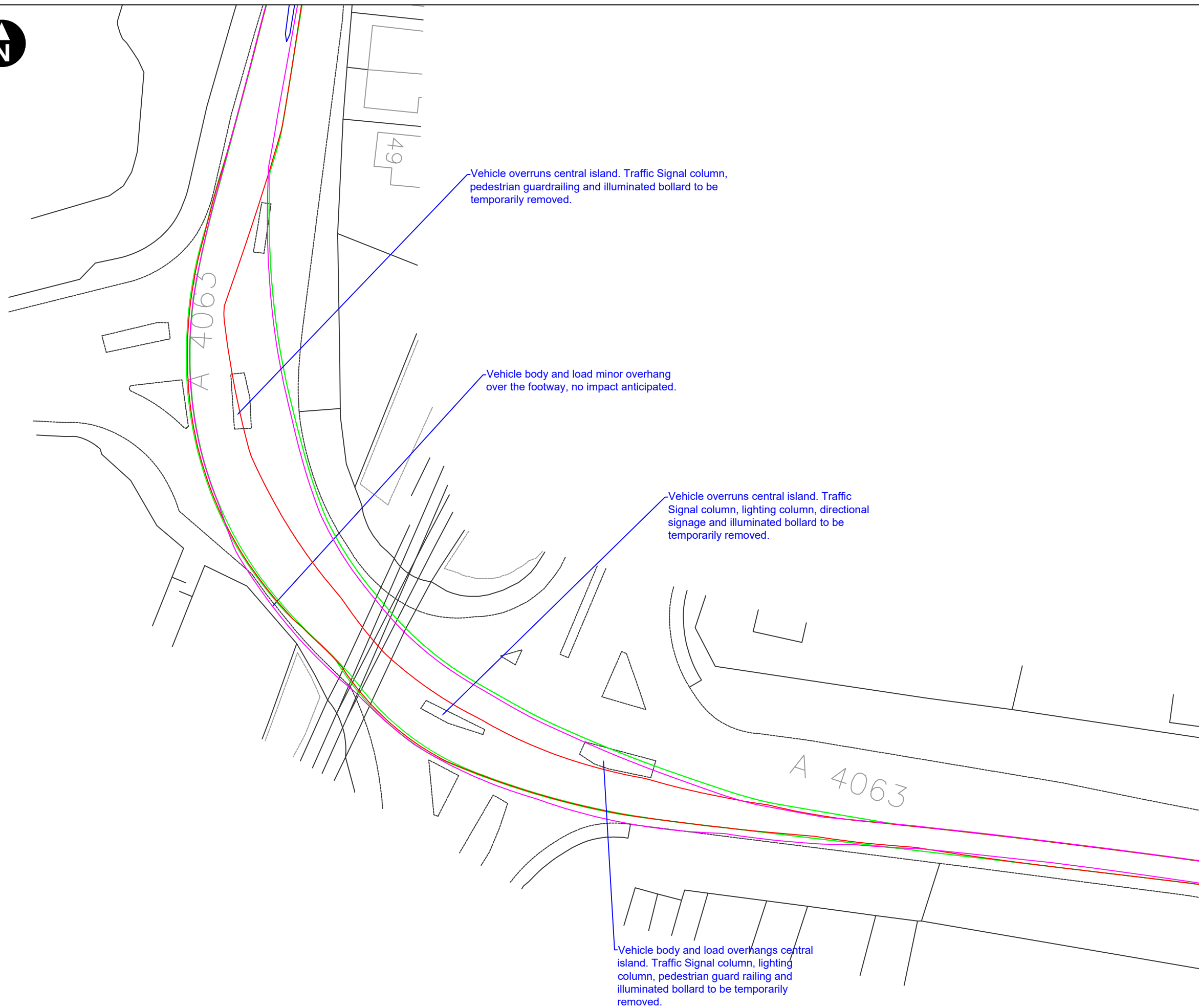
Pennant Walters (FoelT) Ltd
Foel Trawsnant Wind Farm S73 Application
Construction Traffic Management Plan

**Swept Path Analysis - A4063/Hoel
Neuadd Domos Junction (Nacelle and
Hub)**

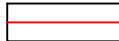
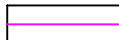
March 2022



wood.



Key

-  Vehicle Wheel Base
-  Vehicle Wheel Overhang
-  Blade Load Outline

0 m  30 m
Scale 1:500 @ A3

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Foel Trawsnant Wind Farm
Construction Traffic Management Plan

**Swept Path Analysis - A4063/A4065
junction (67m blade)**

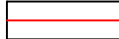
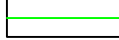
March 2022



wood.



Key

-  Vehicle Wheel Base
-  Vehicle Body Overhang
-  Blade Load Outline

Vehicle body and load overhang into the verge. No impact expected.

The Courtyard

Vehicle overruns into the central reservation, accommodation works required for the overrun and temporary removal of road signage and armco barrier are required for the body and load overhang.

Wern Dew Manor

Vehicle body and load overhang into the verge. Potential need to trim back trees.

Drain

0 m  30 m
Scale 1:500 @ A3

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Foel Trawsnant Wind Farm S73 Application
Construction Traffic Management Plan

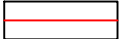
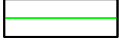
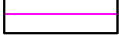
**Swept Path Analysis - A4063/B4281
Junction (67m blade)**

March 2022



wood.



- Key
-  Vehicle Wheel Base
 -  Vehicle Body Overhang
 -  Turbine Load Outline

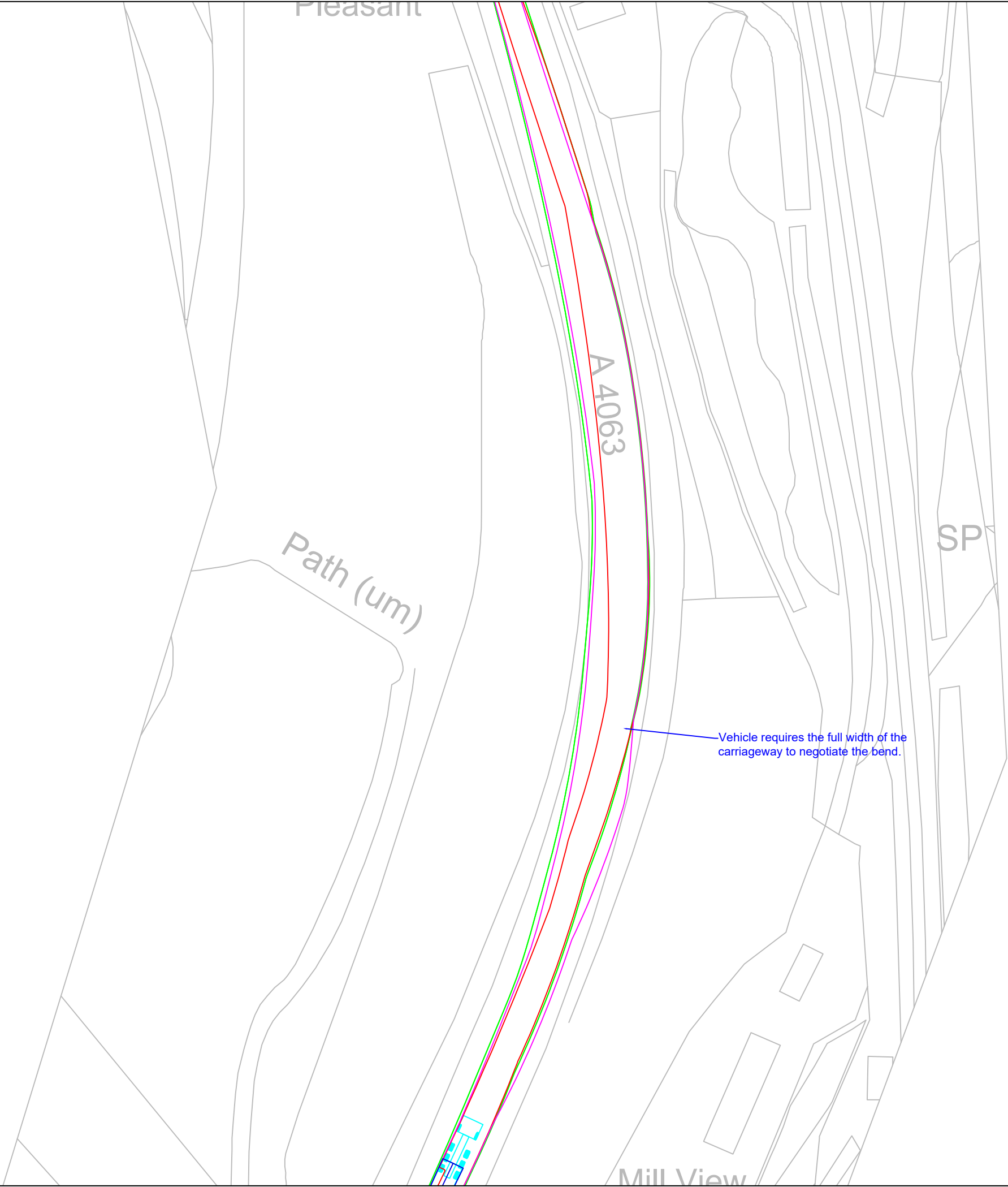
0 m  30 m
Scale 1:500 @ A3
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Foel Trawsnant Wind Farm S73 Application
Construction Traffic Management Plan

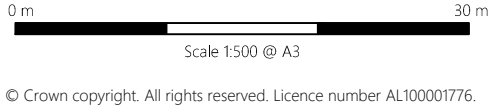
**Swept Path Analysis- A4063/B4282
(blade nacelle and hub)**

March 2022





- Key
-  Vehicle Wheel Base
 -  Vehicle Wheel Overhang
 -  Blade Load Outline



Pennant Walters (FoelT) Ltd
Foel Trawsnant Wind Farm S73 Application
Construction Traffic Management Plan

**Swept Path Analysis - A4063 north of
Coytrahen**

March 2022



Appendix C

Enercon Route Survey Report

[illegible]

Pell Frischmann 93 GEORGE STREET, EDINBURGH. EH2 3ES Tel: +44 (0)131 240 1270 Email: pfeinburgh@pellfrischmann.com www.pellfrischmann.com	Project Foel Trawsnant Wind Farm			Name	Date	Scale 1:250 @ A3		
			Drawn	GB	17/05/2022	File No. 220517 FT Blade Lifter.dwg		
			Designed	JS	17/05/2022			
			Checked	GB	17/05/2022	Drawing Status Draft		
Client Pennant Walters	Drawing Title Nordex N133 Blade Carried in Cometto Blade Lifting Trailer		Point of Interest		1			
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sail	SPA Location A4063 / Neath Road Junction, Maesteg		Drawing No. SK01		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Revision 01	

ROUTE SURVEY REPORT

for the

Road Transportation of Wind farm Components

from

M4, South Wales

To

Foel Onshore wind farm

prepared for



Project Number	RS 463 – Foel Wind farm Route Survey
Project	Route Survey Report
Client	Enercon
Document Number	RS-463
Date	28.01.2021
Prepared by	Iain Ritchie

DOCUMENT CONTROL

Revision	Date	Description	Checked By	Approved By
A	28.01.2021	FIRST ISSUE	IR	JR



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1. INTRODUCTION

This Route Survey Report is concerned with the transport of Wind Turbines between the M4 in South Wales and the Wind farm of Foel, Located near to Maesteg.

Ritchie Services were provided with 2 route options, 1 Leaving the M4 at Junction 40 and a 2nd route, leaving the M40 at Junction 38.

Having reviewed both route options from the M4, the routing from Junction 38, through the town of Maesteg would be the most suitable option for the E115 Turbine.

E-138 or Equivalent

COMPONENT	LENGTH (M)	WIDTH (M)	HEIGHT (M)	WEIGHT (TONS)
BLADE	57	3.9	3.3	17.5

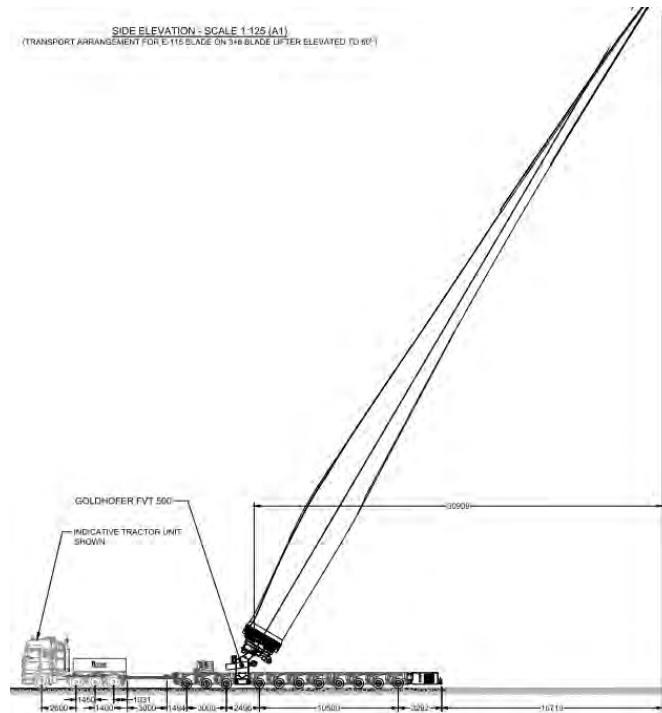
2. TRANSPORT ARRANGEMENT

For the purpose of this report, we have considered that Nacelle and generator components will be transported on modular trailers with suitable axles to achieve local axle load limits.

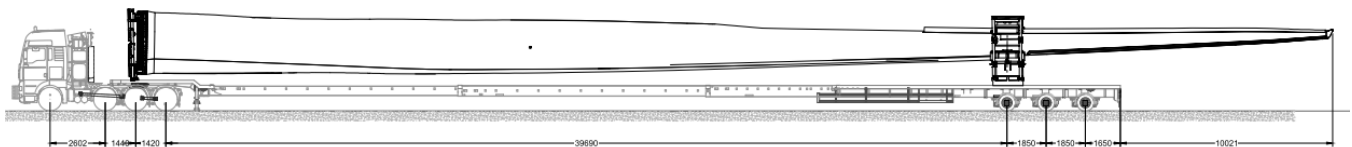
All components are considered to be delivered on semi steer or all steer axles.

Manual rear wheel steer will be required.

E115 Blades have been considered to be loaded on to SWC or Similar for transport to site and on Goldhofer FTV500 Blade lifter for final delivery to site.



SIDE ELEVATION - SCALE 1:80 (A1)
(TRANSPORT ARRANGEMENT FOR E-115 BLADE ON 3 AXLE SUPERWING CARRIER)



3. PORT OF ENTRY

Port of Avonmouth or Swansea have been selected and the most suitable port, under Highway water first policy.

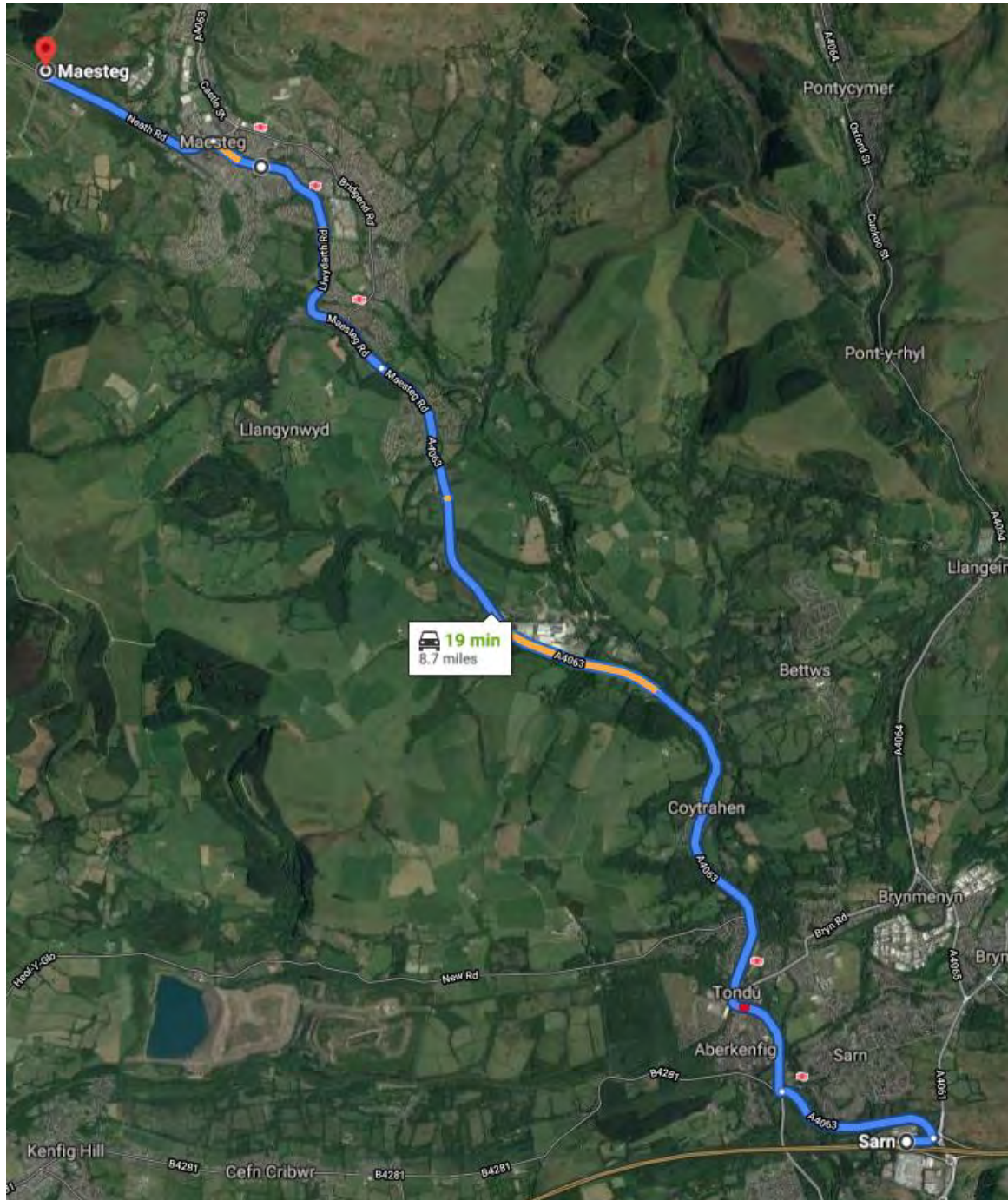
Both ports have a wealth of experience in handling wind farm components.

There is sufficient quay side space and storage space within the port to accommodate a wide range of vessels.

Ground bearing pressures with the port are low in certain areas and so matting is required when storing heavy components.

Quay side GBP can also be as low as 5T/M2 and so consideration should be made to crane selection and resultant GBP's.

4. ROUTE OVERVIEW



[Sarn, Bridgend CF32 9SY to Maesteg CF34 0HA - Google Maps](#)