MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Abnormal Indivisible Load Study: Transformers

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Abnormal Indivisible Load Access Report to the Proposed Morgan and Morecambe Offshore Wind Farms

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Executive Summary

This report considers land and marine transport feasibility investigations into achieving access for transformers at 300te nett for future delivery to a proposed Morgan and Morecambe Offshore Wind Farms Onshore Substation sites, which are to be located between Kirkham and Freckleton, west of Preston, north of the River Ribble.

It should be noted that the length, width and weight of the indicative transformer, (5m x 5.03m x 300te) proposed is indicative only of the maximum design scenario (worst case) at this time and the final route requirements will need to be confirmed once the dimensions of the transformers are known.

Due to the overall transport weight of the transformer load being considered (plus carrying trailer) being in excess of 150te gross weight, the move will require a Special Order from National Highways. It should be noted that Government policy is to maximise the use of water for the movement of Special Order (above 150te gross) AIL's wherever possible. National Highways require that access via the nearest available water access should be considered, as the development would be required to deliver via the nearest available marine offloading point that is practicable for AIL delivery in line with the requirements of the Department for Transports Water Preferred Policy which requires that the nearest practicable port of access is used to deliver Special Order Abnormal Indivisible Loads (AIL).

In line with this policy, this report considers access via Preston Marina and Priory Park via Holme Road via the River Ribble. Although neither facility is a conventional port, and both would need further detailed discussions to secure access, they have been used for transformer and Quad Booster deliveries in the past of up to circa 202te nett at Preston Marina and 281te nett at Holme Road respectively for deliveries to the National Grid Penwortham Substation.

Two substation locations are proposed, the first from the A584 Preston New Road for the Morgan Project and the second from the A583 for the Morecambe Project.

The routes to both locations have been confirmed as structurally acceptable by Lancashire County Council (LCC). Dow New bridge on the access to the northern access point has been accepted with caution for the 24 and 28 axle girder frame trailers proposed. The route from Priory Park via Holme Road (known as Route 2) crosses the Liverpool Road Bridge (A59) which has been approved by LCC for the current proposed loads.

The assessment of route negotiability therefore assumes the use of 24 or 28 axle trailers. The exit route historically used from Preston Marina is via Chain Caul Way to the A583 and this was negotiated by a 24 axle girder frame trailer in summer 2024 for a delivery to Penwortham Substation. The egress from the marina and the three junctions between the marina exit and the A583 have been considered in detail by way of Swept Path Assessments (SPA) to confirm access and street furniture removal requirements for the proposed 24 axle girder frame trailer. It should be noted that the SPAs have been based on OS Mastermap data which does not always include all items of street furniture and where access is limited it would be benefit prior to AIL movements to confirm access by undertaking a topographic survey at the locations shown.

SPAs have also been undertaken on Route 2 from Holme Road, exiting Holme Road onto Liverpool Road, turning left into the A5072 Strand Road and also turning left from Strand Road to the A583.

These also show street furniture removal requirements for the proposed 24 axle girder frame trailer.

No specific review of site access is included within this report, however it is understood that access designs have been developed from the A583 and A584 and that these designs are considerate of AIL deliveries.

This report is intended to be a summary of the AIL route access at the current time and is not a guarantee that the route will be cleared in the future. Specific movements will need to be assessed at the time on an individual basis. If any further information is required, it is available on request.

1. Introduction

1.1. The contents of this report include land transport feasibility investigations into achieving access to the proposed new Morgan and Morecambe Offshore Wind Farm Onshore Substations for Special Order movements of above 150te gross loads. Various locations have been considered as possible access points for transformers requiring delivery to the new substation.

1.2. The transport weight of the expected transformer considered in these investigations is 300te nett as advised by RPS to be the weight of the transformer required at the proposed site location for a future delivery date still to be decided.

1.3. This investigation considers the possible marine and land transport routes from Preston Marina and Holme Road via the River Ribble. Formal movement applications will be necessary upon appointment of a haulage contractor by the transformer manufacturer.

1.4. As the transformer is destined for a new area yet to be constructed, no detailed review of site access within the substation layout is included, this will need to be considered along with a detailed appraisal of the technical requirements for handling transformers on-site as the scheme progresses.

1.5. The report is intended to be a summary of the AIL route access at the current time and is not a guarantee that the route will be cleared in the future. Specific movements will need to be assessed at the time on an individual basis. If any further information is required, it is available on request.

1.6. No specific access within the new site access roads has been considered and all site roads including the gradients on the internal access roads will need to be constructed considerate of AIL vehicles.

2. National Highways Agreement in Principle and Legislative Requirements

2.1. *Definition of Abnormal Indivisible Load (AIL)*

2.1.1. The Department for Transport, of which National Highways (NH), is a government-owned company with responsibility for managing the core road network in England, state that the strict definition of an AIL refers to a load which cannot, without undue expense or risk of damage, be divided into two or more loads for the purpose of carriage on roads and which, owing to its dimensions or weight, cannot be carried on a vehicle which complies in all respects with the 'standard vehicle regulations' these are:

- The Road Vehicles (Construction and Use) Regulations 1986 (as amended)
- The Road Vehicles (Authorised Weight) Regulations 1998 (as amended)
- The Road Vehicles Lighting Regulations 1989 (as amended).

2.1.2. All equipment should be stripped of their ancillaries before they are transported. NH will only accept that further dismantling is not required where it cannot be economically achieved due to the requirement for its construction within specific factory environments or where extremely high tolerances have to be maintained.

2.2. *Legislation*

2.2.1. Conventional heavy goods vehicles have an operating weight limit of 44 tonnes. The category known as abnormal indivisible loads (AIL) covers those vehicles where the gross weight exceeds 44 tonnes. An Abnormal Load is defined as that which cannot be carried under Construction and Use (C&U) Regulations. Items which, when loaded on the load

carrying vehicle exceed the weights encompassed by the C&U Regulations, but do not exceed Special Order Permission Limits, are governed by Special Types General Order (STGO) categories 1 to 3 depending on size. Where dimensions exceed 6.1m in width, 30m in rigid length or 150 tonnes gross weight, Special Order from National Highways (NH) is required.

2.2.2. Special Order category AIL movements are authorised by the NH Abnormal Loads team, based in Birmingham. This is further discussed in section 2.3.

2.3. *Water Preferred Policy Requirements*

2.3.1. The Department for Transport has adopted a 'water-preferred' policy for the transport of AILs. This means that, where an application is sought for the movement of a Special Order or VR1 category load (more than 5.0m width) by road, the Department, via NH, will turn down the application where it is feasible for a coastal or inland waterway route to be used instead of road. NH advise that this decision is based on a number of factors including whether the load is divisible, the availability of a suitable route, the amount of traffic congestion that is likely to be caused and the justification for the load to be moved. The NH Abnormal Loads Team is the department responsible for the authorisation of Special Order AIL's and government policy is that the closest available port of access should be used for the delivery of such oversize items.

2.3.2. In line with this policy, this report considers access via Preston Marina and Priory Park via Holme Road via the River Ribble.

3. Abnormal Indivisible Load Movements - Highways Act 1980

3.1. *Recovery of Excessive Maintenance Costs - Section 59 Agreements*

3.1.1. Section 59 of the Highways Act 1980 allows the highways authority to raise a charge against a user of the highway to cover repair works necessitated by excessively heavy or unusual loads being carried on the road by that user. This provision is typically used where the passage of heavy lorries to and from industrial premises or building sites causes excessive damage to the road, requiring expensive remedial works by the Council. Under Section 59, the Council may charge on such costs to the organisation responsible for the damage, the amount payable being calculated as the excess cost of repair compared to normal maintenance costs for the road. Rather than wait to be charged such excessive repair costs, the Council and the third party may enter into an agreement under Section 59 whereby the third party accepts liability and makes payment of an agreed sum to the Council to cover the excessive repair costs.

3.2. *The Removal and Replacement of Street Furniture*

3.2.1. Where the removal and replacement of street furniture is required for the mobilisation of out of gauge vehicles into existing sites then these are generally managed under Temporary Traffic Regulation Order (TTRO) and Street Works Legislation. These are normally, but not necessarily, organised by the haulage contractor. These requirements are generally to ensure that the supervisors and operatives are competent and that the works will be carried out to a prescribe standard with the appropriate traffic management in place. In some circumstance the Highway Authority or LA will insist that their preferred contractors will carry out such work.

4. Historical Information

4.1. Preston Marina and Holme Road are not conventional ports, and both would need further detailed discussions to secure access. They have been used for transformer and Quad Booster deliveries in the past of up to circa 202te nett and 281te nett respectively for deliveries to the National Grid Penwortham Substation.

4.2. Loads of 300te as required in this investigation are in excess of those that have previously been delivered to substations in the area.

5. Transport Configurations

5.1. Based on the information available to date the transformer considered within this report is advised to be 300te nett weight, width of up to 5m and a height able to meet with the standard UK motorway and trunk road height clearance of 5.03m minimum.

5.2. Due to the size of the components, it is not possible to transport them under the regulations governing Construction and Use (C&U) vehicles (44 tonne gross, 18.65m long and 2.9m wide). It is also not possible to transport within the Special Types General Order (STGO) regulations as the gross load will be in excess of 150te. It will therefore be necessary to comply with legislation regarding Special Order movements.

5.3. As stated, the movement of abnormal indivisible loads is controlled by the requirements of the Department for Transport (DfT) who stipulate varying notice procedures and notice period's dependent upon overall dimensions.

5.4. Based on information currently available it is assumed that the road transport configuration required for routes from Preston Marina or the berth on Holme Road would consist of a 24-28 axle girder frame trailer. Indicative general arrangement drawings have been produced and are included in Appendix 2 as drawing numbers 24-1220.TC01, 24-1220.TC02 & 24-1220.TC03. These are representative of equipment available from a selection of haulage contractors for transformer delivery.

5.5. There are two haulage contractors currently operating girder frame trailers (of sufficient capacity for the proposed 300te unit) in the UK electricity supply industry with equipment able to carry a transformer of this weight and with the knowledge to position the unit correctly on the plinth. These are Allelys Heavy Haulage Ltd and Collett & Sons Heavy Haulage.

5.6. The specific trailer details from individual hauliers are not included in this report due to the information being commercially sensitive to each haulage contractor.

5.7. There are three proposed routes considered from the Preston Marina and Holme Road (one from each and the final route can be accessed from both potential offloading locations) that are detailed within the following sections of the report.

6. Physical Restrictions Affecting a Road Movement

6.1. *General*

6.1.1. The weight and/or dimensions of the components may be such that they are only transportable on specialised transporters, the general arrangements of which are discussed further in Section 5. An AIL is one that is incapable of division into two or more loads by reason of expense or risk of damage, and which cannot be carried by a trailer complying in all respects with the Road Traffic; Road Vehicles (Construction and Use) Regulations 1986 (SI No. 1078) (C12) (S38) as amended ("the Construction and Use Regulations") or where the trailer does so comply, the total laden weight exceeds 44 tonnes.

6.1.2. This section of the report examines the general factors that have to be considered when assessing the suitability of road routes for the movement of abnormal loads with a more specific appraisal of the current status of the possible land transport routes detailed in Sections 7 and 8.

6.2. *Headroom*

6.2.1. Movement is impossible unless sufficient headroom is available along the proposed route to accommodate the travelling height of the load. Generally maximum headroom of 5.03 m (16'6") is maintained within the UK on major motorway and trunk road routes, but this is not guaranteed, and the actual height is posted on structures, such as bridges and gantries, which are below this figure. The UK electricity supply industry and plant manufacturers generally work to a travelling height of 4.95 m (16'3") to allow for a safe margin.

Library Photograph 1
Unmarked bridges provide a minimum height clearance ≥5.03 m. Below this height bridges are clearly marked and transport arrangements necessitating due diligence during the planning phase of a project need to account for low bridge heights.

6.2.2. The height of the load will be increased by the height of the trailer and any packing that may be utilised to give a gross travelling height.

6.2.3. Where restrictions are caused by overhead services such as telephone lines and local power distribution lines, it is feasible to raise or underground these along relatively short routes. Arrangements are made with the responsible undertakers. This is, however, not usually feasible over longer routes or where there are a large number of lines involved. It

is usually impossible to do anything to raise low bridges, but steel gantries with bolted connections can sometimes be temporarily lifted.

6.2.4. Although there is no legal limit on the travelling height of a load, the DfT does advise hauliers to inform the Distribution Network Operators (DNOs), British Telecom (Openreach) and any other company with overhead service lines, of the route of proposed movements with a travelling height in excess of 5.0 m. This enables arrangements to be made for temporary or permanent re-arrangement of facilities.

6.2.5. It should be noted that the Electricity Supply Regulations 1988 refer to the minimum height for overhead lines. Part IV, Section 13 of these regulations states that the height above ground of any overhead line or wire shall not be less than a specific height at any point where the line is over a road depending on the voltages outlined below:

- Not Exceeding 33000 Volts – 5.8 m
- Exceeding 33000 Volts but Not Exceeding 66000 – 6.0 m
- Exceeding 66000 Volts but Not Exceeding 132000 – 6.7 m
- Exceeding 132000Volts but Not Exceeding 275000 – 7.0 m
- Exceeding 275000 Volts but Not Exceeding 400000 – 7.3 m

6.2.6. It is recommended that overhead line authorities are approached to confirm recorded and safe height clearances for all wires above the often referred to high load cut of point of 16'6" (5.03 m). Just because a line is of a given height it does not mean that high loads will automatically be permitted to pass underneath due to flashover and safe height clearance requirements of the line owner. Further information can be obtained from the Health & Safety Executive Guidance note GS6 'AVOIDANCE OF DANGER FROM OVERHEAD ELECTRIC POWER LINES' (HSE Books 1997 ISBN 0717613488).

Library Photograph 2
Overhead services being lifted to accommodate the transit of a vehicle height in excess of 6.0 m en-route between London Thamesport and Grain Power Station.

6.2.7. No liaison with national or regional electricity companies or with British Telecom (Openreach) has been carried out at this stage.

6.3. *Negotiability*

6.3.1. Assuming that sufficient headroom is available, or can be achieved, it is necessary to establish that the route can be negotiated in terms of the overall width and length of the transporter arrangement. Selection of transporter is often influenced by the load carrying capability of the route. If a large number of axles are needed in order to obtain the required load distribution on the road and bridge decks, this may result in a configuration that is unable to negotiate the particular route.

6.3.2. Where negotiability is restricted by the width or the curvature of the route, it can be increased by the temporary removal of 'street furniture' such as lamp posts, traffic signs etc., but normally little can be done if passage is restricted by more permanent objects such as buildings. These works are done with the agreement of the relevant local and highway authorities.

6.3.3. The negotiability of the proposed routes are detailed within Section 8.

6.4. *Structural Capability and Highway Capacity*

6.4.1. The load carrying capability of roads depends to a great extent on axle loading rather than total weight of the load being transported. The load carrying capability of the route has to be assessed in relation to the loadings that would be imposed by the total gross weight of the load plus transporter for each item to be transported. The factors to be considered are the axle and wheel pair loadings; the road crust (pavement thickness); the effect of such loadings on bridges; underground services and speed. The tractor unit is normally considered as a separate unit in terms of imposed axle and wheel loadings. Indemnities are given to highway and bridge authorities for any damage caused, usually by the appointed haulage contractor.

6.4.2. Bridges in Great Britain were previously designed and constructed in accordance with the loading standard set down in British Standard BS 5400-2:2006 Steel, concrete and composite bridges. Although this standard is no longer current it is still referenced in some structural assessment data. In 2020 there were significant changes in standards for the management and assessment of structures as part of a review of the Design Manual for Roads and Bridges (DMRB) by the Department for Transport/National Highways. The DMRB is accessed from the Standards for Highways website, but in a new format for accessing the DMRB documents as of March 2020. Many of the latest revisions were needed to bring DMRB documents up to date with the new document reference codes and titles. Examples of documents where assessment codes have changed as relevant to AILs are detailed below.

- CS 458 The assessment of highway bridges and structures for the effects of special type general order (STGO) and special order (SO) vehicles
- CS 470 Management of sub-standard highway structures

6.4.3. Previous standards were for two types of loading: Type HA and Type HB. Older bridges may not have necessarily been designed to these standards but that does not prevent them from being assessed for abnormal load carrying capability. Type HA is the normal design loading in Great Britain suitable for normal vehicles permitted under the Construction and Use Regulations rather than for those used for the carriage of abnormal loads.

6.4.4. Type HB loading is suitable for exceptional industrial loads likely to use the roads in the area. It takes account of the loading that would be imposed on to the highway by a "standard" 4 axle, 16 wheeled HB vehicle, conforming to the dimensions set down in the Standard.

6.4.5. The HB Vehicle is a theoretical vehicle that represents an abnormal vehicle and consists of a group of sixteen identical wheel loads. A unit of HB loading corresponds to four axles and should be taken as equal to 10kN per axle; each axle has four equally loaded wheels. The overall length of the HB vehicle is taken as 10, 15, 20, 25 and 30 metres corresponding to inner axle spacing of 6, 11, 16, 21 and 26 m respectively. The effects of the most severe of these cases must be adopted. The overall vehicle width is taken as 3.5 m. In all cases, the longitudinal axis of the HB vehicle is taken as parallel to the lane markings.

6.4.6. Unless the axle configuration of the transporter matches that of the "standard" exactly, it is not possible to say directly whether passage of a particular abnormal load would be permissible. Notwithstanding that it is known that a road meets a particular HB loading standard, it is necessary to assess routes with respect to individual loads. However, if bridges have been designed to meet a known standard this greatly assists the assessment process.

6.4.7. In general terms the UK motorway and trunk road network is nominally designed to be able to accommodate 45HB units. Depending on the class of roads, and the age of a structure, county roads are often lower rated at 37.5HB/30HB etc. For example, 45 units of HB therefore correspond to a 180 tonne vehicle on four axles at the worst case spacing of those given above and with the vehicle fully aligned with the structure. None of this is precisely duplicated within any of the transport configurations or in the track geometry during transit of structures, hence the variations indicated.

6.4.8. The new codes referenced above in document CS 458 The assessment of highway bridges and structures for the effects of special type general order (STGO) and special order (SO) vehicles now refer to SOV Vehicles of carrying load arrangements from 80te to 196te for STGO loads and from SOV 250 to SOV 600 for Special Order loads. These are now used in new assessments and compared against former HB ratings and to ascertain whether AILs are able to safely use the structures on a prescribed route.

6.4.9. Road crust strength is important, but with the spread of load obtained with modern multi-wheeled transporters, it is not normally a problem, providing the road is maintained to a reasonable standard.

6.4.10. Damage of the road crust especially at the fringes of un-kerbed roads can become prevalent during the construction phase of projects within remote areas. This effect can have a damaging effect on the available track width for abnormal loads due to the risk of wheels becoming sunken into damaged road edges or soft verges. Prior to the delivery phase it would be advisable to inspect the road surface especially at pinch points to ensure its compatibility to the abnormal load transport configurations.

6.4.11. Underground Services also need to be considered in terms of road capacity. When assessing the effect of weight on underground services, such as water pipes, sewers and service ducts, the loading imposed by individual wheels is normally considered. The weight that can be safely borne by underground services varies depending on their age and condition; the depth to which they are buried; and the strength of the road crust covering.

All these factors have to be considered when assessing the suitability of a road for the passage of abnormal loads and assessment is usually carried out by the relevant authority or undertaker concerned.

6.4.12. Risk to services can be considered in relation to the weight to which they could be exposed by the passage of normal vehicles permitted by the C&U Regulations. This can then be compared with that which would be imposed by the passage of the proposed abnormal load movements, and with the pressure to which they may have been subjected by previous movements of abnormal loads. Experience gained by the heavy haulage industry generally is that underground services are not damaged providing that road crust strength is to a reasonable standard and that the depth of cover and condition of services are normal. In any event, the haulage contractor would be required to provide indemnities against possible damage to the public highway as a result of the movements by the terms of the Special Orders.

6.4.13. In terms of private site access roads, haulage contractors would expect the end client to be able to confirm that access roads are designed to accommodate proposed loadings. If this is not possible then additional geotechnical investigations may be necessary.

6.4.14. The structural status of the proposed routes are detailed within Section 9.

6.4.15. A slow moving abnormal load generally imposes less impact loading than a relatively fast moving vehicle permitted under the C&U Regulations. This helps to mitigate the effect of the additional wheel loading imposed by the abnormal load.

7. The Width of Highways, Fences and Verges, Overrun and Over-Sail

7.1. *Width of Highway*

7.1.1. Orlick (1993) states that in general there will not be documentary evidence of the width of a highway and, if there is, it may well not be conclusive. "*What matters more is what exists on the ground.*" If the Highway Authority has maintained land at the side of the road, as well as the metalled road itself, that is strong evidence that the land is part of the highway.

7.1.2. The rights of public passage and the consequential restrictions on the powers of owners to deal with their land as they see fit have meant that there have been plenty of disputes as to the width of particular highways. As well maintenance by Highway Authorities, the existence of statutory undertakers' apparatus such as telephone cables, electric cables and gas mains can indicate extent of highway.

Library Photograph 3

The services markers are a clear indicator that the wall forms the edge of the highway. Similarly manhole covers in the verge probably shows that the verge forms part of the highway.

7.1.3. If the undertakers have obtained wayleave consents from adjoining owners to place their apparatus in, say, a verge at the side of the road, that suggests that the verge is not part of the highway. If, on the other hand, they have not obtained any wayleaves, then this suggests that they are using their statutory powers and the Public Utilities Streetworks Code to lay services in the highway without the need to obtain consents of any private party.

7.2. *Fences and Verges*

7.2.1. The existence of a metalled road may be a good indication of the extent of the highway when such a road crosses unenclosed land such as a heath or common. It is no indication of the extent of the highway in other cases for example where there are fences or ditches on both sides of the highway the public right of passage will be taken to be the extent of the whole space between the fences or ditches even through the width of the highway may be varying and unequal and even though there may be a substantial amount of land lying between the metalled road and the fence. However, it should be noted that the presumption that the fences mark the highway boundary can often be rebutted and confirmation of the highway boundary, where there exists ambiguity should be confirmed with the relevant highway authority.

7.3. *Over-sail*

7.3.1. Over-sail is a common occurrence when moving large components. The law that needs to be considered is the law of trespass which is defined as the unauthorised interference with the possession of someone's home, garden or other land interests. It is useful to note that trespass is not a criminal offence, and trespassers cannot usually be prosecuted. They can, however, be sued as trespass is a civil offence.

7.3.2. The boundary of a property may be indicated by a physical marker such as a river, a wall, or a fence. The actual boundary may fall on either side of the boundary feature or fall along the median line through the boundary feature itself or bear no resemblance to the physical boundary feature. The starting point for establishing a boundary is the title deeds. Theoretically speaking, it is an established legal principle that a vertical boundary also extends from the subsoil beneath the boundary to the centre of the earth and also extends

to the sky above. This means that ownership of property includes the airspace above it and also the ground beneath it.

7.3.3. There is established protocol for over-sail in the construction sector where an over-sail licence is issued as this is often an issue if, for example, a large crane is being used. An over-sail licence is an agreement which provides a landowner (and developer) with the legal right to pass through another's air space. If a crane is used in a construction project the jib of the crane may well swing in and out of neighbouring airspace. Without an over-sail licence this could constitute a trespass and the landowner could be faced with an injunction.

7.3.4. Guidance states that the licence should cover issues such as time of day (and night) that the item of plant may over-sail neighbouring land, the heights of the over-sail and the duration of the licence. An indemnity for any damage caused by the crane may also be included.

7.3.5. It is essential to try and negotiate an agreement for any financial compensation payable for the use of land which is either owned by another party or subject to rights in favour of a third party. As with any dispute, a reasonable approach can produce savings in terms of costs awards should the matter reach court even if the other party to the dispute refuses to negotiate with you.

8. Marine Access

8.1. *Preston Marina*

8.1.1. Preston Marina is located on the north bank of the River Ribble. It is not a conventional port, having closed as a commercial port in the early 1980s. The Marina is operated under a lease agreement from Preston City Council.

8.1.2. Marine access has been proven for delivery of transformers of up to 202te via a coastal vessel and offloaded using a mobile crane as recently as August 2024. Consideration needs to be given to acceptable tidal periods that impact on the available operational windows for delivery via the River Ribble.

8.1.3. Offloading takes place from the marina lock rather than the general quayside and space is limited.

8.1.4. The exact requirements would need to be confirmed. Initial discussion have commenced with Preston Marina and with heavy haulage crane providers who have performed previous transformer lifts at the marina. The 300 tonne transformers will need a larger crane and space for offloading is limited. Further detailed design work will be required to develop a lift plan to ensure space for the crane and outriggers and to accommodate the transport vehicle.

8.1.5. There will be a requirement for the offloading area and associated route through the marina to the public highway to be cleared of boats before it can be used. This would need to be arranged with the marina in advance of the movement.

8.1.6. Based on historical information, Preston Marina and Preston City Council will require an indemnity for any damage to ground, subterranean services and quay walls that may be caused.

8.1.7. Preston Marina do not have actual maximum ground loadings available. The loading for a 300te transformers will be significantly greater than those that have been undertaken in the past and geotechnical investigations would be needed to confirm acceptable loadings which will in turn impact on any offloading proposals. In the past Preston Marina have advised that it would be up to the haulage contractor/shipping contractor to confirm suitable methodologies and suitable ground loadings.

8.1.8. A minimum predicted tide height of 9 metres (Liverpool) will be required for the coaster to access Preston (max. 3m draft) and Bathymetric surveys are recommended prior to the movement to confirm the final water depth (due to silting).

8.1.9. There are limited vessels able to navigate to Preston and identification of such will be required well in advance of delivery. The coaster River Trader has facilitated the most recent transformer deliveries via the marina including in August 2024.

8.1.10. In summary, although the marina has been used for 202te loads, there will be the requirement for further surveys and detailed design to confirm parameter such as quay side capacity and the need for any remedial works, lifting plans and the need for relocation of existing boats in the yard, need to agree timing of movements to account for water depths

8.1.11. The following photographs detail Preston Marina for information.

Photograph 1
Offloading area adjacent to the Entrance Lock. Ground loading limits will need to be confirmed via geotechnical investigations.

Photograph 2

Area used for Boat storage. The area needs to be cleared to enable mobilisation of mobile cranes to offload. Preston Marina will only allow this when disruption will be minimised in summer between July and September. Detailed design will confirm the space required to mobilise the crane and accommodative the AIL vehicle

Photograph 3

Route egress from the Offloading area. The area needs to be cleared to enable access.

8.2. *Holme Road*

8.2.1. Holme Road and the potential marine offloading point are owned by South Ribble District Council (SRDC). The area is within a public park frequented by the general public including walkers and cyclists and access agreements for use are required including arrangements for protection of other users, such as Heras fencing. Further information on specifics can be made available if necessary but the main points they have again highlighted during most recent discussions on the use of the park, on the same basis of movements in 2011 and 2014 are:

- A Bathymetric survey of the riverbed in the vicinity of the landing point is recommended prior to the movement of the load to confirm the river depth at the time.
- Bird surveys for the tree lined exit and pruning organised as required.
- Geotechnical survey of the landing site to establish ground capacities.
- A potential scraping and levelling of the riverbed due to detritus build up.

- The original survey for use of Holme Road prior to Quad Booster deliveries in 2011 suggested a reinforced concrete retaining wall retained the land at the 'dock' but during works to install the new surfacing and bollards, it was discovered that the 'dock' was in fact more of a hollow concrete caisson. This was resurveyed and subsequently used, but SRDC have advised the later survey document should be referred to for ground load capacities etc.

Photograph 4
Holme Road Offloading Area looking north.

8.2.2. SRDC will expect financial compensation for any disruption caused to park infrastructure, furniture and vegetation and will require that any items removed to enable access are either put back or relocated to agreed standards.

Photograph 5
Holme Road Offloading Area looking east.

8.2.3. The width of the river in this area is approximately 80m and previous deliveries have been via the roro vessel Terra Marique.

8.2.4. The vessel to be used needs to be able to 'take the ground'. The roll off should then take place at low water.

8.2.5. A geotechnical survey of the landing area was undertaken prior to Quad Booster delivery in 2011 to ensure the loadings put through the ramps can be accepted. These would need to be revised prior to the movement of the load.

Photograph 6
View of Holme Road looking back from the River Ribble.

Library Photograph 1
Terra Marique offloading a Quad Booster to be delivered to Penwortham Substation at Holme Road 2011.

Library Photograph 2
Terra Marique offloading a Quad Booster to be delivered to Penwortham Substation at Holme Road 2011.

8.2.6. The routes away from the offloading area through the park to Liverpool Road is described in Section 10.2.

9. Structural Route Information

9.1.1. The proposed routes were submitted to all relevant authorities from Preston Marina and Holme Road to the proposed substation locations. The routes are shown below and are also illustrated in Map 1 appended to this report. Figures 1 and 2 shown the location of Preston Marina and Holme Road and their immediate exit routes to the public road network in more detail:

9.2. *Route 1 from Preston Marina*

From Preston Docks exit onto Lockside Road
Turn left Chain Caul Way
Turn right Nelson Way
Turn left A583 Riverway
Continue A583 Blackpool Road to approx. OS Grid Reference: SD 42772 31662

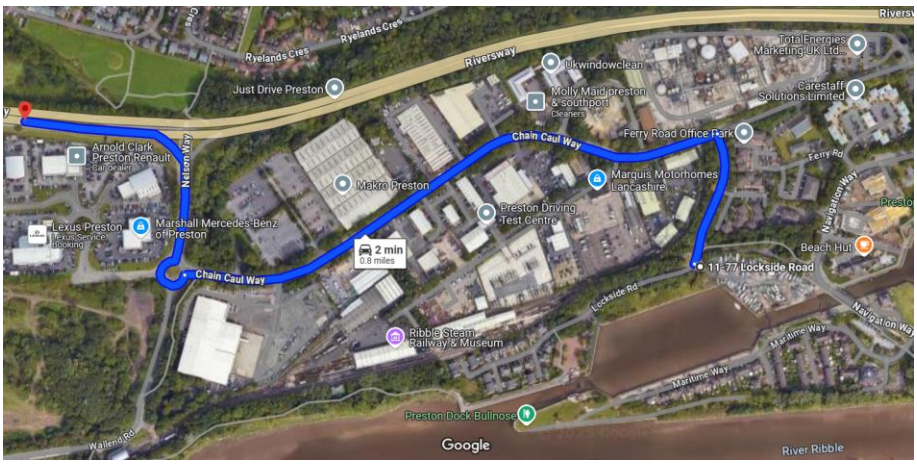


Figure 1. Preston Marina location plan and exit route to A583.

9.2.1. Route 1 has been approved by LCC for the proposed girder frame trailers with cautions over the final structure crossed, the 'Dow New Bridge' approaching the proposed site access road to the north in Kirkham. The flat top trailer proposed however was rejected on the Dow New Bridge due to weight. The flat top trailer is also in excess of the safe running height of an overhead structure prior to the Dow New bridge on Chain Caul Way (shown in photograph 13).

9.3. *Route 2 from Holme Road*

Exit Holme Road from River Ribble
Turn left Liverpool Road
Turn left Strand Road
Turn left A583
Continue to approx. OS Grid Reference: SD 42772 31662

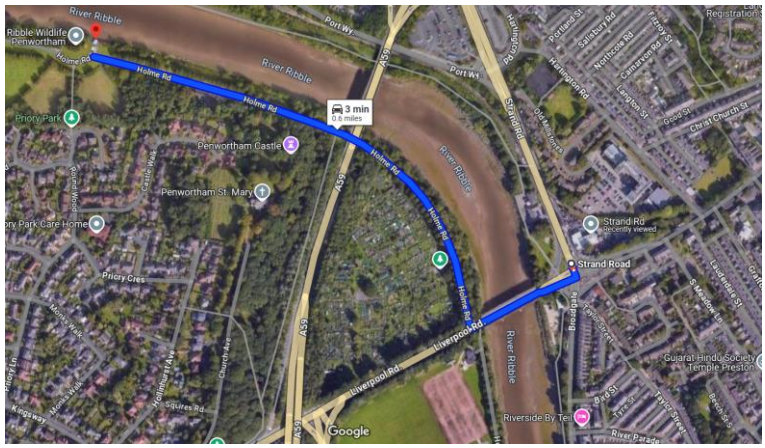


Figure 2. Holme Road location plan and exit route to A59.

9.3.1. As with route 1, route 2 was also approved by LCC for the proposed girder frame trailers with cautions over the final structure, the 'Dow New Bridge' approaching the proposed site access road to the north in Kirkham with the flat top trailer again being rejected due to weight.

9.4. *Route 3*

9.4.1. Route 3 is the proposed route 1 or 2 to the A583 Blackpool Road

As Route 1 or 2 to A583 Blackpool Road
Turn left A584 Preston New Road
Continue to approx. OS Grid Reference: SD 44343 29436

9.4.2. Route 3 was approved structurally for all three proposed vehicles, with a caution on the Dow Brook Ext Bridge.

9.4.3. No specific issues have been identified by Lancashire Police as part of the consultation process. It is expected that a police escort would be required from Preston Marina and Holme Road to site with private escort arrangements also in place and it is recommended that further discussions are undertaken with respect to confirming escort requirements prior to deliveries. Very careful consideration on escort requirements will be needed and for the section where traffic must be halted, consultation with the police that with such restrictions, only police escorts can manage the movement. Private escorts are not allowed to direct traffic.

10. Route Negotiability Information

10.1. *Route 1 from Preston Marina*

10.1.1. The following routes and photographs detail the main points of interest on the route from Preston Marina.

Photograph 7

Vehicle travels towards the camera following exit from Preston Marina onto Lockside Road. SPA01 refers and details the street furniture removal and vegetation clearance required.

Photograph 8

Vehicle travels away from the camera exiting Preston Marina to the left as conventional right turn not negotiable. The load would then drive in reverse, exiting to the right. 24-1220.SPA01.R1 refers and details the street furniture removal required.

10.1.2. 24-1220.SPA01.R1 has been produced to show the manoeuvre out of the marina as the right turn is not negotiable in the conventional manner. It will be necessary for the indicative load at 5.6m width to overrun the pavements and the exact egress including vegetation clearance will be confirmed once the final width of transformer has been confirmed.

Photograph 9

Vehicle travels towards the camera crossing Lockside Road Level Crossing.
The railway level crossing is operated by the Ribble Steam Railway heritage railway who should be contacted to inform of movement requirements. 24-1220.SPA01.R1 refers and shows that as the load drives in reverse, bearing left onto the level crossing it is expected that there will be conflict with the level crossing warning sign header and potentially the railings for the load at the currently envisaged 5.6m overall width.

10.1.3. The Network Rail Standard Caution for crossing a level crossing with and AIL is detailed below at for information and it is understood this also applies on a heritage railway.

> *"Before the trailer crosses any automatic half-barrier railway level crossing or any other railway level crossing, equipped with a telephone, the driver of the towing vehicle shall telephone the railway signaller of the intention to cross the railway with the trailer. The trailer and the vehicles used with it shall not cross except with the permission of and in accordance with the instructions of the railway signaller. After crossing the driver shall again telephone the signaller to inform him that the crossing is clear."*

Photograph 10

Vehicle travels towards the camera in reverse on Lockside Road, negotiable, tree pruning may be required depending on growth at the time of movement.

Photograph 11

Vehicle travels towards the camera turning right in reverse from Lockside Road onto Chain Caul Way and then proceeds conventially, Swept Path Assessment (SPA) Drawing Number 24-1220.SPA02.R1 refers and details the street furniture removal and vegetation clearance required.

Photograph 12

Alternative view, vehicle initially travels away from the camera in reverse turning right from Lockside Road onto Chain Caul Way before proceeding towards the camera conventionally, SPA Drawing Number 24-1220.SPA02.R1 refers and details the street furniture removal and vegetation clearance required.

Photograph 13

Structure immediately following left turn onto Chain Caul Way height measured at 5.73m at the lowest point, negotiable for the girder frame trailers proposed, not negotiable for the 16 axle flat top trailer.

Photograph 14

Vehicle travels towards the camera on Chain Caul Way, tree pruning may be required depending on growth at the time of movement.

Photograph 15

Vehicle travels towards the camera on Chain Caul Way approaching roundabout onto Nelson Way, tree pruning may be required depending on growth at the time of movement. Parking suspension would be required.

Photograph 16

Vehicle travels away from the camera leaving Chain Caul Way turning right onto Nelson Way, roundabout would be more negotiable in contraflow, centre island street furniture removal would be required. SPA Drawing Number 24-1220.SPA03 refers and details the street furniture removal required.

Photograph 17

Vehicle travels towards the camera turning right onto Nelson Way, roundabout would be more negotiable in contraflow. SPA Drawing Number 24-1220.SPA03 refers and details the street furniture removal required removal required including removal of the electrified lamp post.

Photograph 18

Vehicle travels away from the camera turning left A583 Riversway. SPA Drawing Number 24-1220.SPA04 refers and details the street furniture removal required.

Photograph 19

Vehicle travels away from the camera turning left onto A583 Riversway, street furniture removal would be required. SPA Drawing Number 24-1220.SPA04 refers and details the street furniture removal required including removal of the electrified signs.

Photograph 20

Vehicle travels away from the camera A583 Blackpool Road, taking first exit to continue A583. Negotiable.

Photograph 21

Vehicle travels towards the camera passing underneath the Old Lea Hall Occupation Overbridge, measured at 6.46m at the lowest point, negotiable.

Photograph 22
Vehicle travels away from the camera A583 Blackpool Road approaching A584 Preston New Road.

Photograph 23
Vehicle travels away from the camera A583 Blackpool Road, negotiable.

Photograph 24
Vehicle travels away from the camera A583 Blackpool Road, negotiable. Tree pruning may be required depending on growth at the time of movement.

Photograph 25
Vehicle travels away from the camera A583 Blackpool Road, negotiable. Tree pruning may be required depending on growth at the time of movement.

Photograph 26
Vehicle travels away from the camera A583 Blackpool Road, negotiable. Tree pruning may be required depending on growth at the time of movement.

Photograph 27
Vehicle travels away from the camera A583 Blackpool Road, full occupation of highway required.

Photograph 28
Vehicle travels away from the camera A583 Kirkham Bypass, negotiable. Tree pruning may be required depending on growth at the time of movement.

Photograph 29
Vehicle travels away from the camera A583 Kirkham Bypass, negotiable. Approaching Dow New Bridge both girder frame trailers pass with caution. Tree pruning may be required depending on growth at the time of movement.

Photograph 30
Vehicle travels away from the camera A583 Kirkham Bypass.

10.2. *Route 2 from Holme Road*

10.2.1. The following routes and photographs detail the main points of interest on the route from Preston Marina.

Photograph 31

Trial run prior to Quad Booster delivery to Penwortham to confirm access through the park for high and wide load vehicles. Holme Road A59 bridge, measured to be 6.4m on 13.08.09 and as such is not restrictive.

Photograph 32

Holme Road A59 bridge, measured to be 6.4m on 13.08.09 and as such is not restrictive.

Photograph 33
Vehicle travels towards the camera along Holme Road, tree pruning would be required. Road has been used by Quad Boosters of over 270te nett in 2011 and 2014.

Photograph 34
Vehicle travels towards the camera along Holme Road towards Liverpool Road, parking suspension would be required.

Photograph 35
Vehicle travels away from the camera (in reverse) turning right onto Liverpool Road, then drive forward to cross the bridge. SPA05 refers and details the street furniture removal and vegetation clearance required. 20 axle trailers have negotiated the turn right towards Penwortham for Quad Boosters in 2011 and 2014.

Photograph 36

Vehicle travels away from the camera turning left onto Liverpool Road, SPA05 refers and details the street furniture removal and vegetation clearance required.

Photograph 37

View from Liverpool Road looking back towards Holme Road. Vehicle travels towards the camera. Exit in reverse to left and then drive forward. SPA05 refers and details the street furniture removal and vegetation clearance required.

Photograph 38

Vehicle travels away from the camera crossing the River Ribble. Approved by Lancashire County Council.

Photograph 39
Vehicle travels away from the camera Liverpool Road turning left onto A5072 Strand Road, street furniture removal required. SPA05 refers and details the street furniture removal required.

Photograph 40
Vehicle travels away from the camera A5072 Strand Road, full occupation of the carriageway required.

Photograph 41
Vehicle travelling away from the camera. Strand Road level crossing.

10.2.2. The Network Rail Standard Caution for crossing a level crossing with and AIL is detailed below at for information.

"Before the trailer crosses any automatic half-barrier railway level crossing or any other railway level crossing, equipped with a telephone, the driver of the towing vehicle shall telephone the railway signaller of the intention to cross the railway with the trailer. The trailer and the vehicles used with it shall not cross except with the permission of and in accordance with the instructions of the railway signaller. After crossing the driver shall again telephone the signaller to inform him that the crossing is clear."

Photograph 42
Vehicle travels away from the camera A5072 Strand Road approaching Strand Road Overbridge

Photograph 43
Vehicle travels away from the camera A5072 Strand Road approaching Strand Road Overbridge measuring 5.62m at the lowest point.

Photograph 44
Vehicle travels away from the camera continuing A5072 Strand Road, centre island street furniture ahead would require removal.

Photograph 45
Vehicle travels away from the camera on A5072, turning left onto A583. SPA07 refers and details the street furniture removal required.

Photograph 46
Vehicle travels away from the camera A583, negotiable.

Photograph 47
Vehicle travels away from the camera A583 Watery Lane, tree pruning may be required depending on growth at the time of movement.

Photograph 48
Vehicle travels away from the camera A583 Riversway, negotiable.

Photograph 49
Vehicle travels away from the camera A583 Riversway, tree pruning may be required depending on growth at the time of movement.
Note: Route 2 now continues as route 1 from photograph 20.

10.3. *Route 3*

10.3.1. Route 3 is accessible from route 1 and 2 and exits the A583 onto the A584 Preston New Road.

Photograph 50
Vehicle travels away from the camera bearing left A584 Preston New Road from A583 Riversway, street furniture removal would be required.

Photograph 51
Vehicle travels away from the camera A584 Preston New Road, full occupation of carriageway required. Tree pruning may be required depending on growth at the time.

Photograph 52
Vehicle travels away from the camera A584 Preston New Road, full occupation of carriageway required. Tree pruning may be required depending on growth at the time.

Photograph 53
Vehicle travels away from the camera A584 Preston New Road, full occupation of carriageway required. Tree pruning may be required depending on growth at the time.

Photograph 54
Vehicle travels away from the camera A584 Preston New Road, full occupation of carriageway required. Tree pruning may be required depending on growth at the time.

Photograph 55

Vehicle travels away from the camera A584 Preston New Road towards Freckleton. Tree pruning may be required depending on growth at the time. Approaching approximate location of the Morecambe substation. Crossing the central reservation to a potential site access haul road that would be created would need to be confirmed as accessible with LCC and Lancashire Police. A new site access road will need to be created north from the A584 and this will need to be designed considerate of AIL vehicles.

11. Summary and Conclusions

11.1. National Highways require that access via the nearest available water access should be considered, as the development would be required to deliver via the nearest available marine offloading point that is practicable for AIL delivery in line with the requirements of the Department for Transports Water Preferred Policy which requires that the nearest practicable port of access is used to deliver Special Order Abnormal Indivisible Loads (AIL).

11.2. In line with this policy, this report considers access via Preston Marina and Priory Park via Holme Road via the River Ribble. Although neither facility is a conventional port, and both would need further detailed discussions to secure access, they have been used for transformer and Quad Booster deliveries in the past of up to circa 202te nett and 281te nett respectively for deliveries to the National Grid Penwortham Substation.

11.3. It should be noted that the length, width and weight of the indicative transformer, (5m x 5.03m x 300te) proposed to the structural authorities has not been confirmed as exact and therefore the overall size could be reduced as the scheme develops.

11.4. Two substation locations are proposed, the first from the A584 Preston New Road for the Morgan Project and the second from the A583 for the Morecambe Project.

11.5. The routes to both locations have been confirmed as structurally acceptable by LCC. Dow New bridge on the access to the northern access point has been accepted with caution for the 24 and 28 axle girder frame trailers proposed. The route from Priory Park via Holme Road (known as Route 2) crosses the Liverpool Road Bridge (A59) which has been approved by LCC for the current proposed loads.

11.6. The assessment of route negotiability therefore assumes the use of 24 or 28 axle trailers. The exit route historically used from Preston Marina is via Chain Caul Way to the A583 and this was negotiated by a 24 axle girder frame trailer in summer 2024 for a delivery to Penwortham Substation. The three junctions between the marina exit and the A583 have

been considered in detail by way of Swept Path Assessments (SPA) to confirm access and street furniture removal requirements for the proposed 24 axle girder frame trailer.

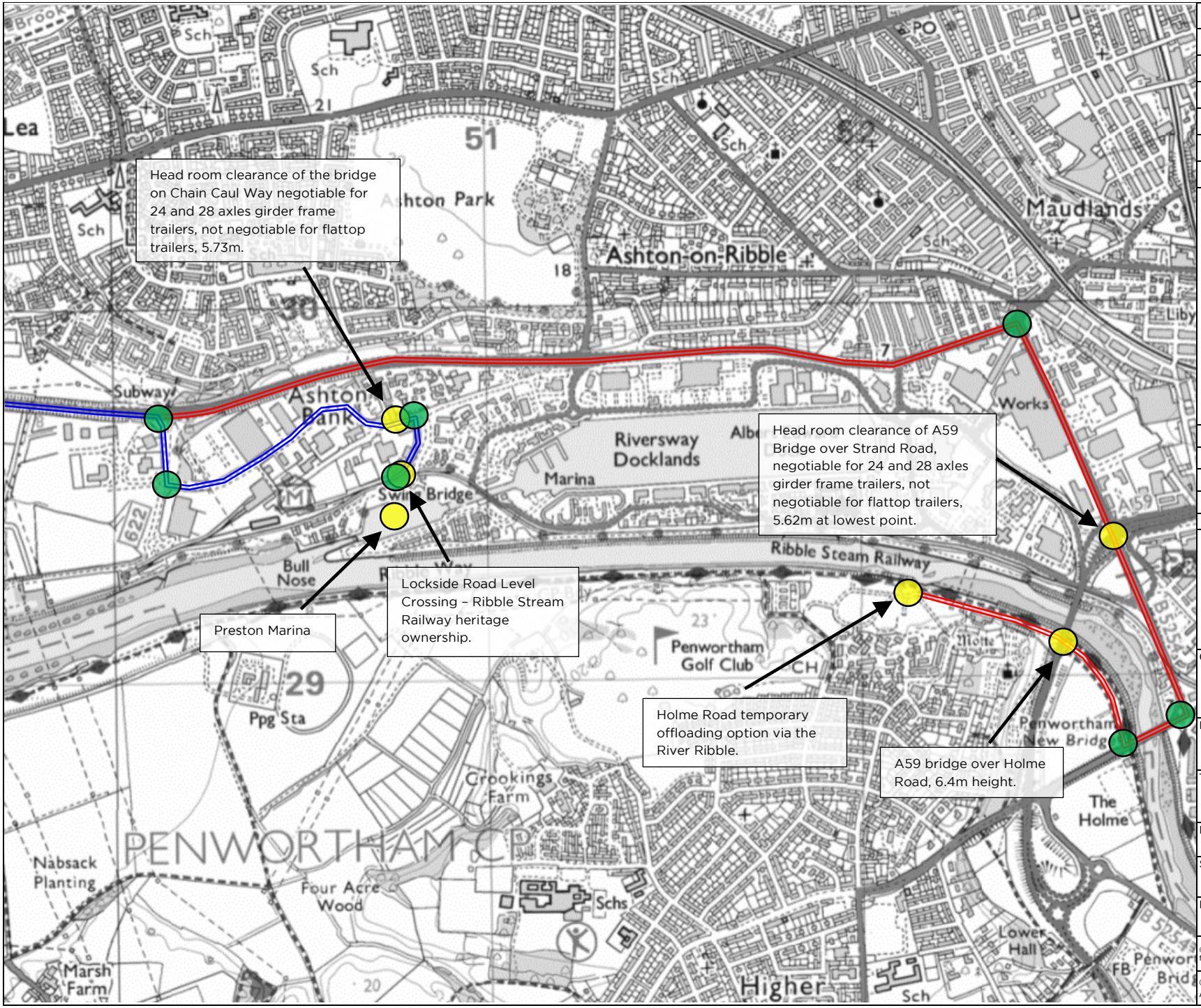
11.7. SPAs have also been undertaken on Route 2 from Holme Road, exiting Holme Road onto Liverpool Road, turning left into the A5072 Strand Road and also turning left from Strand Road to the A583. These also show street furniture removal requirements for the proposed 24 axle girder frame trailer.

11.8. No specific review of site access is included within this report, however it is understood that access designs have been developed from the A583 and A584 and that these designs are considerate of AIL deliveries.

11.9. In summary, additional works would also be required to confirm the final accommodation works that would be required at Preston Marina and Holme Road, as the loads are in excess of what has been undertaken in the past but both facilities have been used for heavy loads. The final dimensions of the transformer would also need to be confirmed as this will impact on both marine and road transport. The road routes to the Morgan and Morecambe Offshore Wind Farms Onshore Substations are structurally acceptable on the 24 and 28 axle girder frame trailers proposed. SPAs have confirmed the remedial works required in terms of street furniture for 24 axle trailers (24 axle trailers being more manoeuvrable).

Appendix 1

Maps



Key

	Route 1 from Preston Marina
	Route 2 Holme Road
	Route 3
	Proposed Site Area
	Points of Interest
	Swept Path Assessments undertaken

Rev	Date	Amendments:
B	20.05.25	Third Issue
A	28.04.25	Second Issue
0	02.08.23	First Issue

Revisions

Wynns Ltd.
Independent Transportation Consultants.

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ. Tel: (01785) 850411

Client:

20 Western Avenue
Milton Park
Abington
Oxon
OX14 4SH

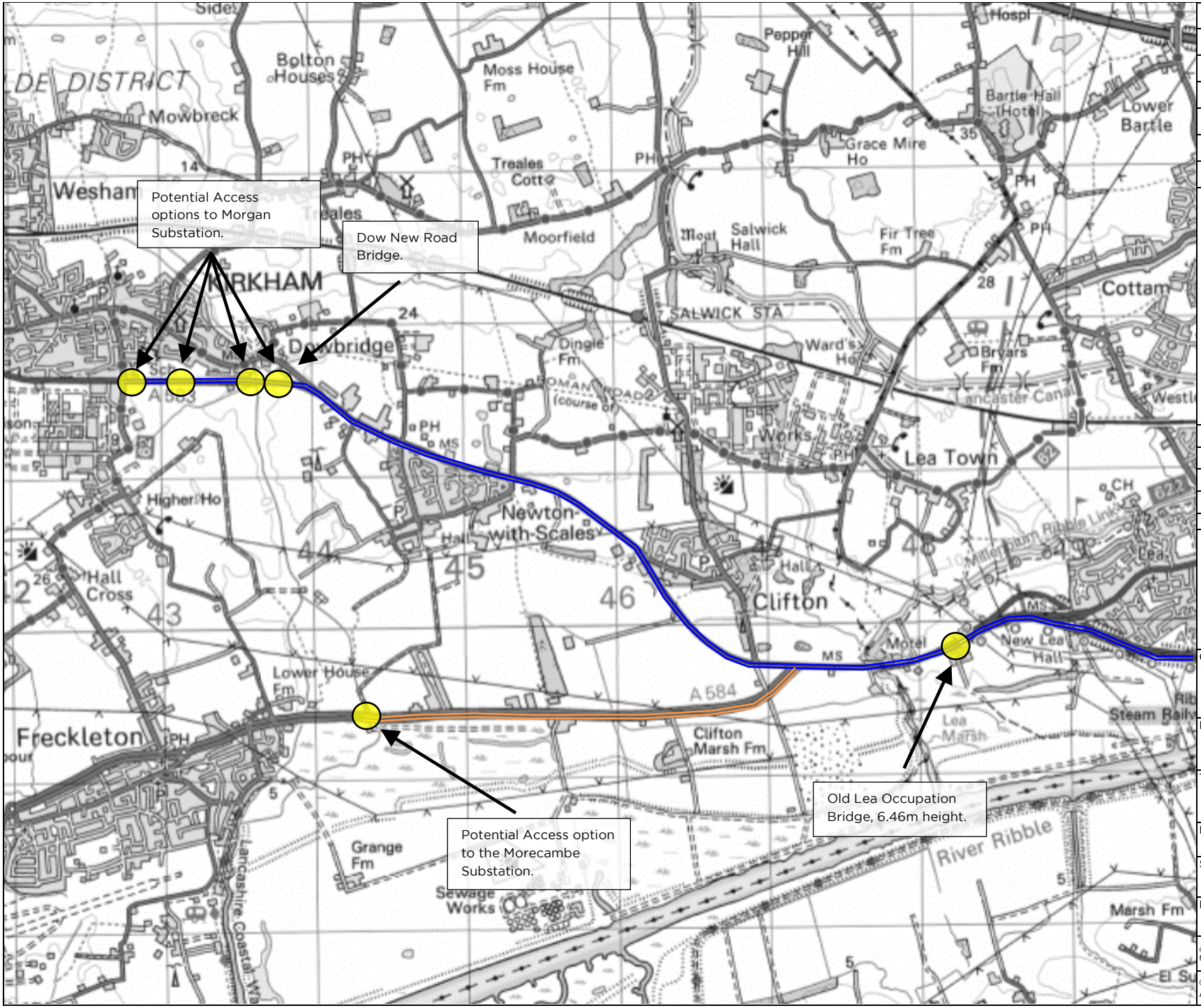
Project:
Morgan & Morecambe Offshore Wind Farms

Title:
Map 1 – Overview of Marine Offloading Locations

Drawing Status:
Final Report

Scale (A4):	Drawn by:	Checked by:
NTS	BD	ARP

Ref No.:	Sheet:	Rev.:
24-1120. Map 1	1 of 2	2



Key

	Route 1 from Preston Marina
	Route 2 Holme Road
	Route 3
	Possible Alternative Preston Marina exit for flattop trailers
	Points of Interest
	Swept Path Assessments undertaken

Rev	Date	Amendments:
B		
A	28.04.25	Second Issue
0	02.08.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Consultants.

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ. Tel: (01785) 850411

Client:
20 Western Avenue
Milton Park
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Project:
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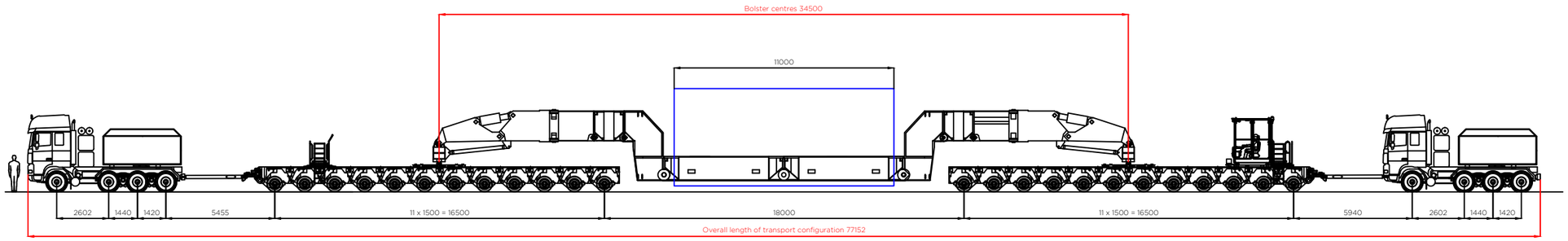
Drawing Status:
Final Report

Scale (A4):	Drawn by:	Checked by:
NTS	BD	ARP

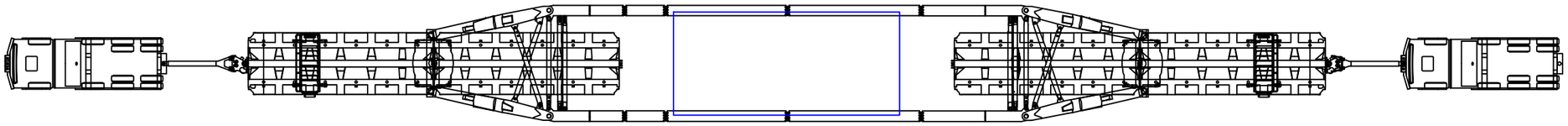
Ref No.:	Sheet:	Rev.:
24-1120. Map 1	2 of 2	1

Appendix 2

Drawings

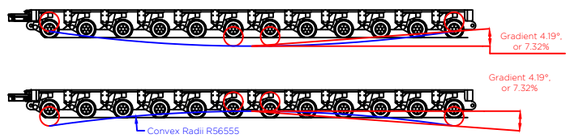


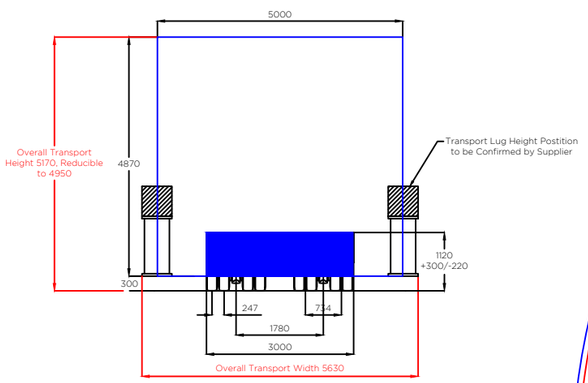
Side Elevation - 24 axle girder frame trailer - concept model only
Indicative 300te Transformer
Scale 1:250



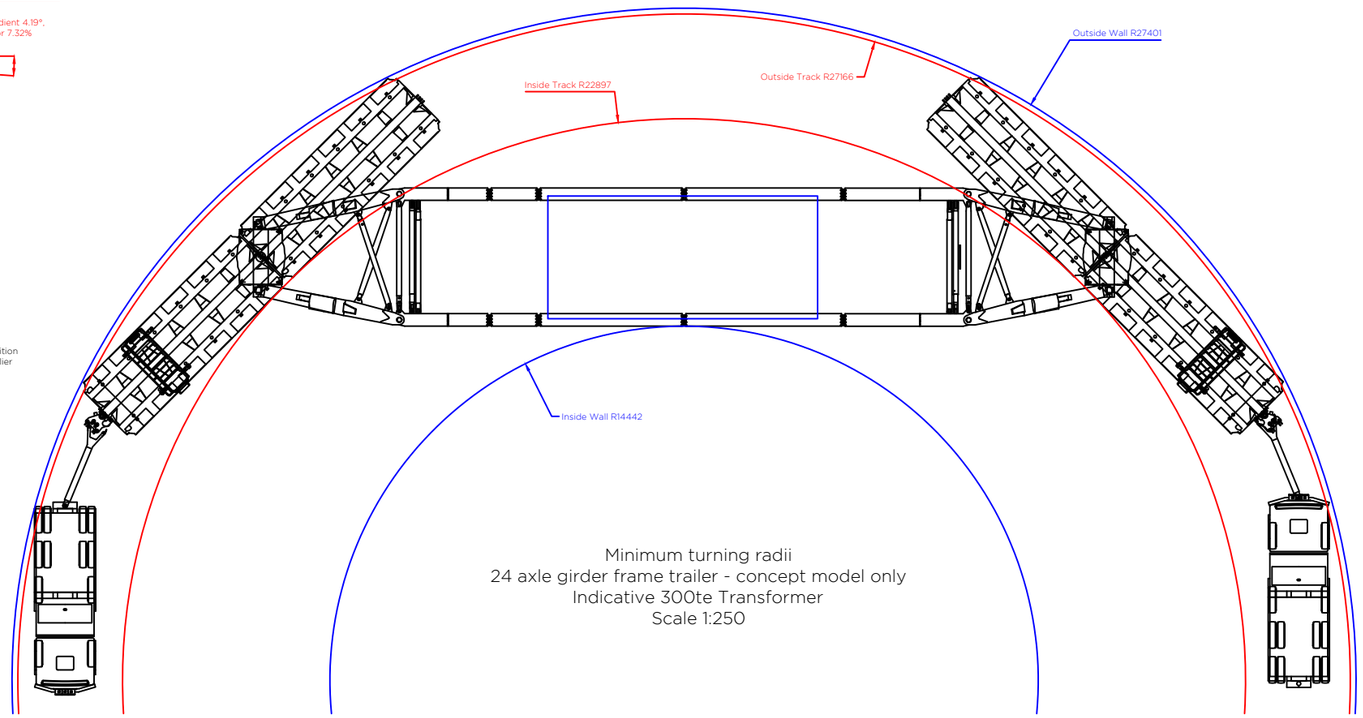
Plan View - 24 axle girder frame trailer - concept model only
Indicative 300te Transformer
Scale 1:250

Vertical Negotiability
Based on +/-300 from Nominal Running Height





Profile View
Indicative 300 te Transformer
Scale 1:125
Overall Transport Sizes Taken As:
11m (L), 5m (W), 4.87m (H)



Minimum turning radii
24 axle girder frame trailer - concept model only
Indicative 300te Transformer
Scale 1:250

Load Table	
24 axle girder frame trailer	
Self weight of transformer	300.0 te
Self weight of trailer	172.12 te
Self weight of aux. steelwork (for L&S)	0.0 te
Total combined weight	472.12 te
Load per trailer	236.06 te
Load per axle line	19.67 te
Load per axle	9.83 te
Load per wheel (4 per axle)	2.45 te
Overall ground bearing pressure	4.77 te/m²
Tractor(s) (42 te)	
Front axle	8.0 te
Second steer	10.0 te
Rear axle	12.0 te
Rear axle	12.0 te

Notes:-
[1] The figures shown above are representative of the transport configuration portrayed however, as tractor and trailer arrangements vary then the loads and dimensions indicated should be treated as probable values.

[2] Actual dimensions including axle spacing and mean running height, may vary slightly depending on manufacturer of trailer deployed.

[3] All linear measures in millimetres unless stated otherwise.

[4] Transformer drawing indicative only. Transport lug details will be critical for transport configuration.

Rev.	Date	Amendments
1		
0	31.01.24	Issued for comment

Revisions

Prepared By:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client:

Project:
Morecombe Offshore Wind Farm

Title:
Indicative Transport Configuration
300 te transformer carried within
24 axle girder frame trailer
showing minimum turning radii

Drawing Status:
Final Report

Scale (A3):	Drawn By:	Checked By:
As shown	MTO	PW
DWG. No:	Sheet:	Rev:
24-1220.TC02	1 of 1	0

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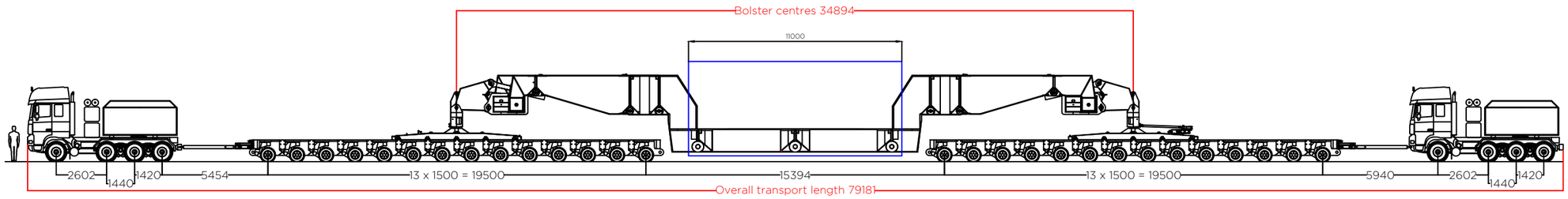
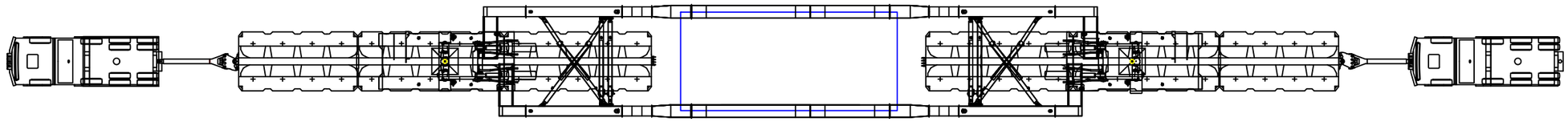
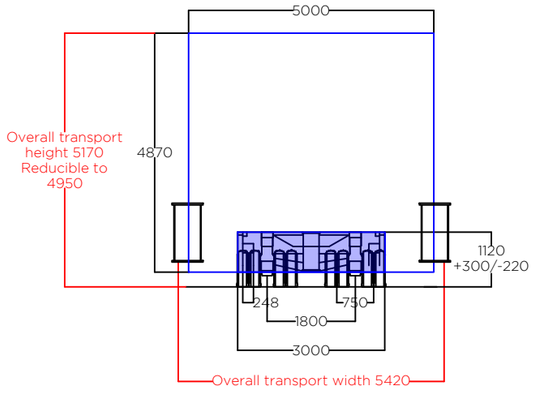


Side Elevation - 28 axle girder frame trailer - concept model only
Indicative 300te Transformer
Scale 1:250

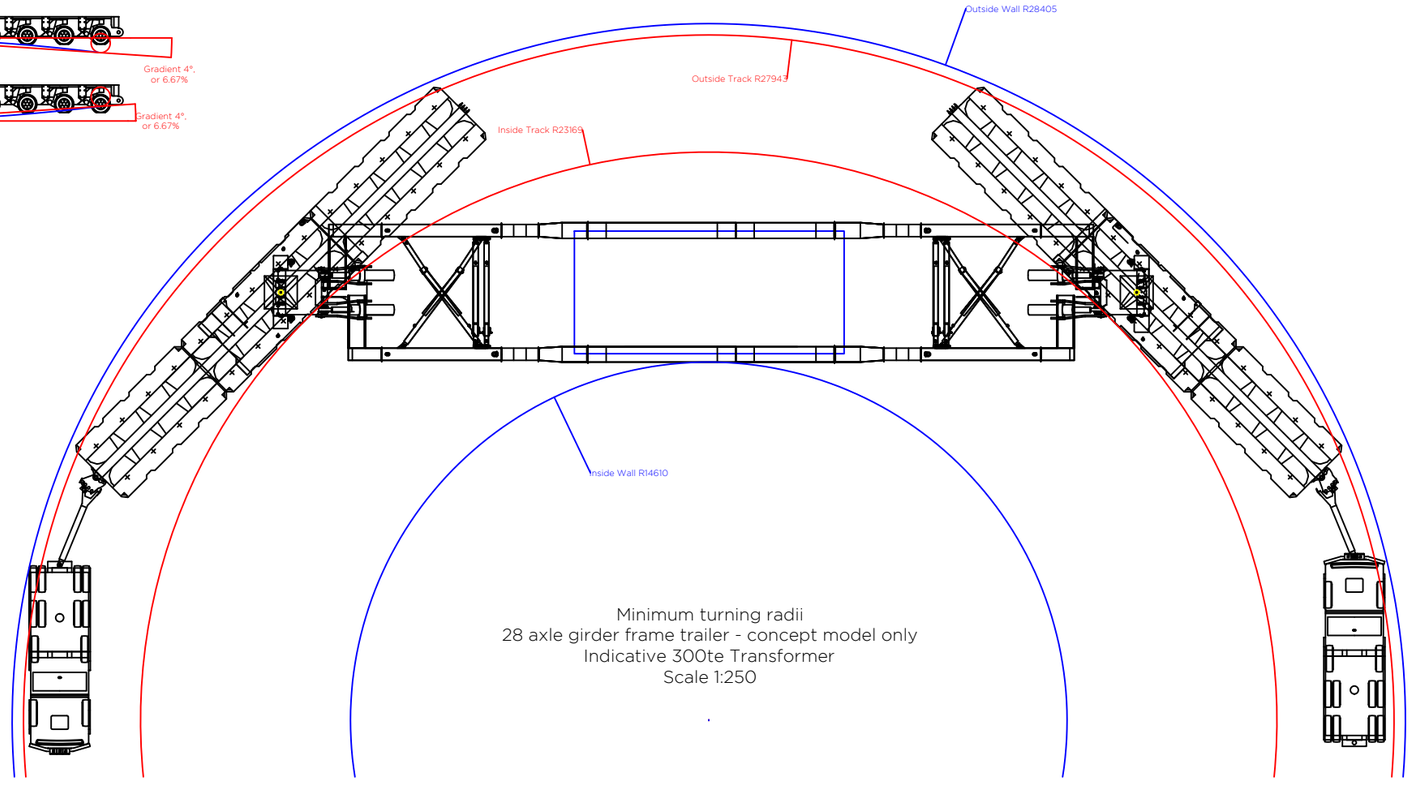


Plan View - 28 axle girder frame trailer - concept model only
Indicative 300te Transformer
Scale 1:250

Vertical Negotiability
Based on +/-300 from Nominal Running Height



Profile View
Indicative 300 te Transformer
Scale 1:125
Overall Transport Sizes Taken As:
11m (L), 5m (W), 4.87m (H)



Minimum turning radii
28 axle girder frame trailer - concept model only
Indicative 300te Transformer
Scale 1:250

Load Table	
28 axle girder frame trailer	
Self weight of transformer	300.0 te
Self weight of trailer	213.0 te
Self weight of aux. steelwork (for L&S)	5.4 te
Total combined weight	518.4 te
Load per trailer	259.2 te
Load per axle line	18.51 te
Load per axle	9.25 te
Load per wheel (4 per axle)	2.31 te
Overall ground bearing pressure	4.43 te/m²
Tractor(s) (42 te)	
Front axle	8.0 te
Second steer	10.0 te
Rear axle	12.0 te
Rear axle	12.0 te

Notes:-
[1] The figures shown above are representative of the transport configuration portrayed however, as tractor and trailer arrangements vary then the loads and dimensions indicated should be treated as probable values.

[2] Actual dimensions including axle spacing and mean running height, may vary slightly depending on manufacturer of trailer deployed.

[3] All linear measures in millimetres unless stated otherwise.

[4] Transformer drawing indicative only. Transport lug details will be critical for transport configuration.

Rev.	Date	Amendments
1		
0	31.01.24	Issued for comment

Revisions

Prepared By:

Shaftesbury House, 2 High Street,
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Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:
Morecombe Offshore Wind Farm

Title:
Indicative Transport Configuration
300 te transformer carried within
28 axle girder frame trailer
showing minimum turning radii

Drawing Status:
Final Report

Scale (A3):	Drawn By:	Checked By:
As shown	MTO	PW

DWG. No:	Sheet:	Rev:
24-1220.TC03	1 of 1	0

P:\Clients\Existing Clients\RPS\24-1220 Morecombe Offshore wind farm\Transport Configurations\24-1220.TC03 Morecombe 300te 28 Axle Girder Frame Trailer. R0.dwg

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:750

N

LOCKSIDE ROAD

Overrun & Oversail of Approximately 69.67m²

Additional Oversail of Approximately 75.68m²

99.79m

68.50m

1.87m

1.39m

5.48m

0.32m

5.43m

0.80m

2.57m

13.83m

Oversail of Approximately 46.17m²

2.26m

29.73m

Overrun & Oversail of Approximately 1.22m²

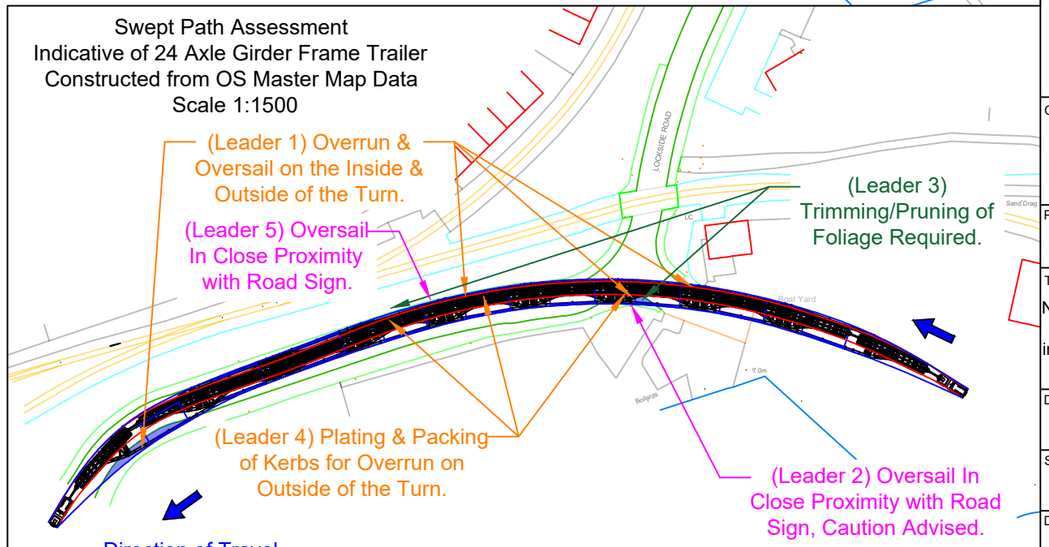
Additional Oversail of Approximately 22.75m²

Boat Yard

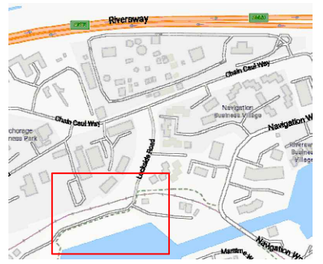
Direction of Travel

The delivery vehicle can be seen exiting Preson Marina onto Lockside Road at approximate Grid Reference SD 50806 29538.
The delivery vehicle is expected to overrun and oversail into the footway as it makes the turn (Leader 1). The oversail on the inside of the turn is expected to be in close prxoimty to a road sign located there (Leader 2). Trimming/pruning of foliage on the inside and outside of the turn is expected, depending on growth at time of manoeuvre in order to facilitate the vehicle (Leader 3). The overrun to the inside and outside of the turn will require plating and packing of kerbs to facilitate the delivery vehicle (Leader 4). The oversail to the north of Lockside Road is anticipated to be in close proximity to a road sign located there and caution is advised (Leader 5).
The configuration is recommended to have full occupation of the carriageway to aid in reducing oversail where possible and to remain within the carriageway. Topographical survey of area is recommended due to tight tolerances, and anticipated conflicts. Subject to carrying out the recommended remedial works, this section is considered to be negotiable for this arrangement.
Note - location of street furniture is approximate and based on OS Mastermap data only, any street furniture within the area highlighted will need to be removed

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:1500



Location Plan



Legend:

- 24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1	20.05.25	Orientation of vehicle revised
0	13.05.25	Issued for comment

Revisions

Prepared by:
WYNNS INDEPENDENT TRANSPORTATION ENGINEERS
Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: RPS A TETRA TECH COMPANY

Project: **Morecombe Offshore Wind Farm**

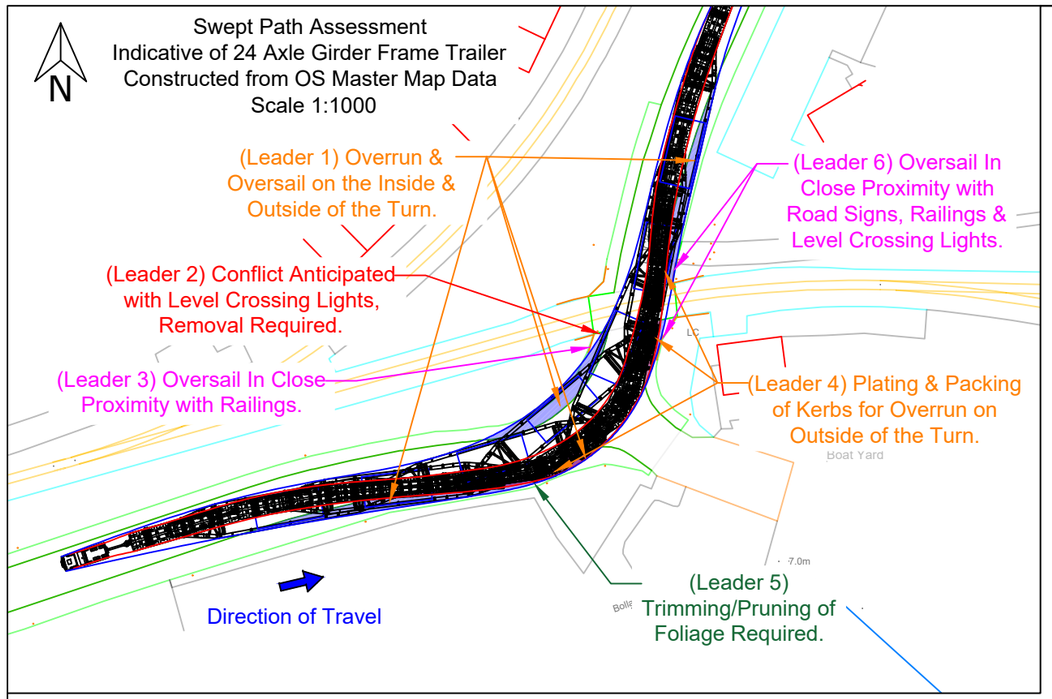
Title: Swept Path Assessment
Negotiability of Preston Marina Exit onto Lockside Road at Approx OS Grid Ref SD 50806 29538 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP
Dwg. no:	**Sheet:**	**Rev:**
24-1220.SPA01	1 of 3	1

C:\Users\james.barrett\OneDrive - Wynns\Documents\RPS\Morecombe Offshore Wind Farm\Swept Path Assessments

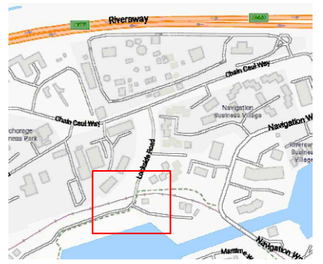
Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:1000



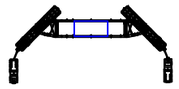
The delivery vehicle can be seen traveling east along Lockside Road and turning left across the level crossing in reverse at approximate Grid Reference SD 50808 29553.
The delivery vehicle is expected to overrun and oversail into the footway as it makes the turn (Leader 1). The oversail on the inside of the turn is expected to be in conflict with a the level crossing lights which will require removal in order to facilitate the vehicle (Leader 2). The oversail on the inside of the turn is also in close proximity with the railings and caution is advised (Leader 3). The overrun to the outside of the turn will require plating and packing of kerbs to facilitate the delivery vehicle (Leader 4). The oversail to the outside of the turn may require further trimming/pruning of vegetation to facilitate the oversail (Leader 5). As the vehicle negotiates the turn the oversail on the outside of the turn is anticipated to be in close proximity to a road signs, railings and level crossing lights and caution is advised (Leader 6).
The configuration is recommended to have full occupation of the carriageway to aid in reducing oversail where possible and to remain within the carriageway. Topographical survey of area is recommended due to tight tolerances, and anticipated conflicts. Subject to carrying out the recommended remedial works, this section is considered to be negotiable for this arrangement.
Note - location of street furniture is approximate and based on OS Mastermap data only, any street furniture within the area highlighted will need to be removed

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:500

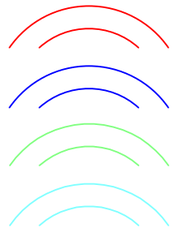
Location Plan



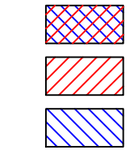
Legend:



24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02



Extent of vehicle track
Extent of oversail
Extent of road boundary
Extent of property boundary



Overrun and oversail beyond kerb
Overrun beyond kerb
Oversail beyond kerb

Rev.	Date	Amendments
1	20.05.25	Orientation of vehicle revised
0	13.05.25	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client:

Project:
Morecombe Offshore Wind Farm

Title:
Swept Path Assessment
Negotiability of left turn on Lockside Road across level crossing in reverse at Approx OS Grid Ref SD 50808 29553 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status:
Final Report

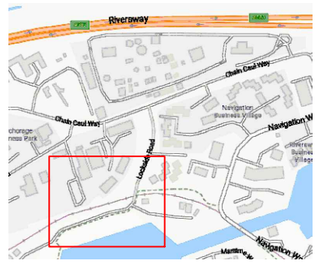
Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP
Dwg. no:	**Sheet:**	**Rev:**
24-1220.SPA01	2 of 3	1

C:\Users\james.barrett\OneDrive - Wynns\Documents\RPS\Morecombe Offshore Wind Farm\Swept Path Assessments

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from Client Supplied OS Master Map Data
Scale 1:1500

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.

Location Plan



Legend:

- 24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1	20.05.25	Orientation of vehicle revised
0	13.05.25	Issued for comment

Revisions

Prepared by:
Independent Transportation Engineers
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Client:

Project:
Morecombe Offshore Wind Farm

Title:
Swept Path Assessment
Negotiability of left turn from Lockside Road onto Chain Caul Way at Approx OS Grid Ref SD 50835 29710 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

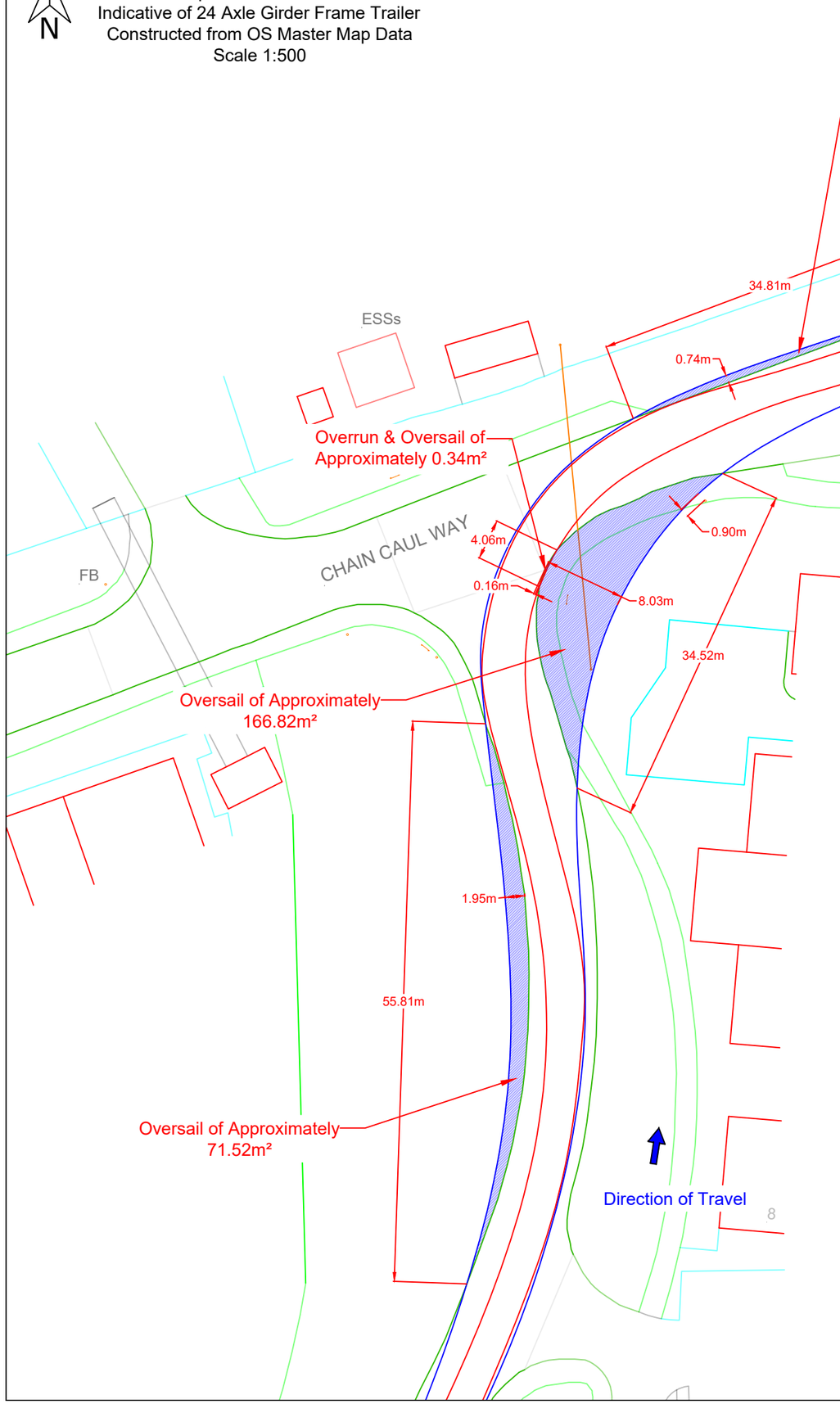
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

Dwg. no:	Sheet:	Rev:
24-1220.SPA01	3 of 3	1

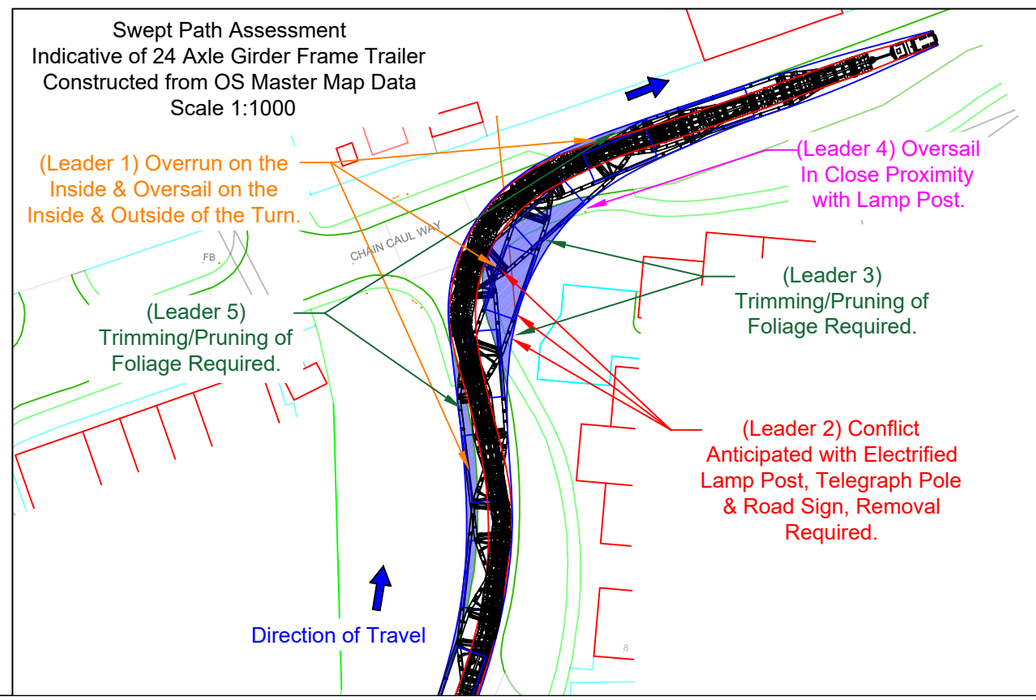
P:\Clients\Existing Clients\RPS\24-1220 Morecombe Offshore wind farm\Swept Path Assessments

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:500



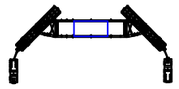
The delivery vehicle can be seen traveling north along Lockside Road in reverse and turning right onto Chain Caul Way and proceeding then forward at approximate Grid Reference SD 50835 29710.
The delivery vehicle is expected to overrun and oversail beyond the carriageway edge at several points as it makes the turn (Leader 1). The oversail on the inside of the turn is expected to be in conflict with an electrified lamp post, telegraph pole and road sign which will require removal in order to facilitate the vehicle (Leader 2). The oversail on the inside of the turn will require trimming/pruning of trees and foliage, depending on growth at time of manouevre (Leader 3). The vehicle oversail on the inside of the turn is in close proximity to an electrified lamp post located to the south of Chain Caul Way and caution is advised, approximate distance of 0.9m (Leader 4). The oversail to the outside of the turn may require further trimming/pruning of vegetation to facilitate the oversail (Leader 5). The configuration is recommended to have full occupation of the carriageway to aid in reducing oversail where possible and to remain within the carriageway. Topographical survey of area is recommended due to tight tolerances, and anticipated conflicts. Subject to carrying out the recommended remedial works, this section is considered to be negotiable for this arrangement.
Note - location of street furniture is approximate and based on OS Mastermap data only, any street furniture within the area highlighted will need to be removed

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:1000

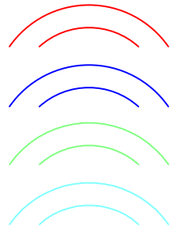


Location Plan

Legend:



24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02



Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1	20.05.25	Turn Revised to Reverse Right
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: rps A TETRA TECH COMPANY

Project:
Morecombe Offshore Wind Farm

Title:
Swept Path Assessment
Negotiability of left turn from Lockside Road onto Chain Caul Way at Approx OS Grid Ref SD 50835 29710 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP
Dwg. no:	Sheet:	Rev:
24-1220.SPA02	1 of 2	1

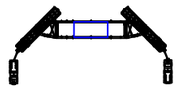
C:\Users\james.barrett\OneDrive - Wynns\Documents\RPS\Morecombe Offshore Wind Farm\Swept Path Assessments

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from Client Supplied OS Master Map Data
Scale 1:1500

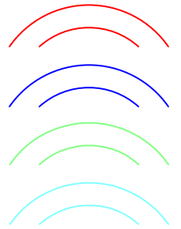
NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.

Location Plan

Legend:



24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02

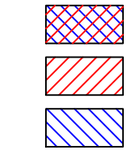


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1	20.05.25	Turn Revised to Reverse Right
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:

Morecombe Offshore Wind Farm

Title:

Swept Path Assessment
Negotiability of left turn from Lockside Road onto Chain Caul Way at Approx OS Grid Ref SD 50835 29710 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

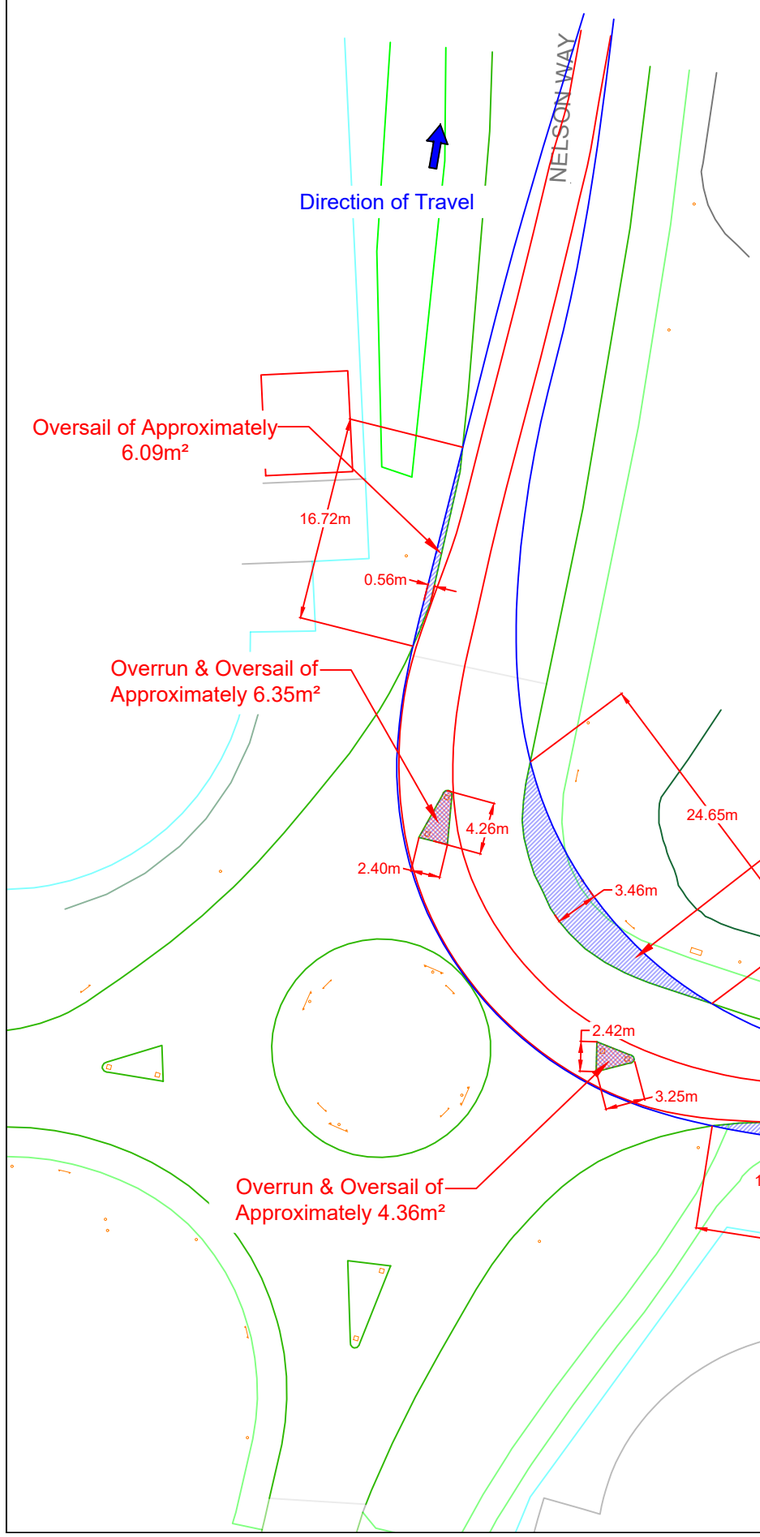
Drawing status:

Final Report

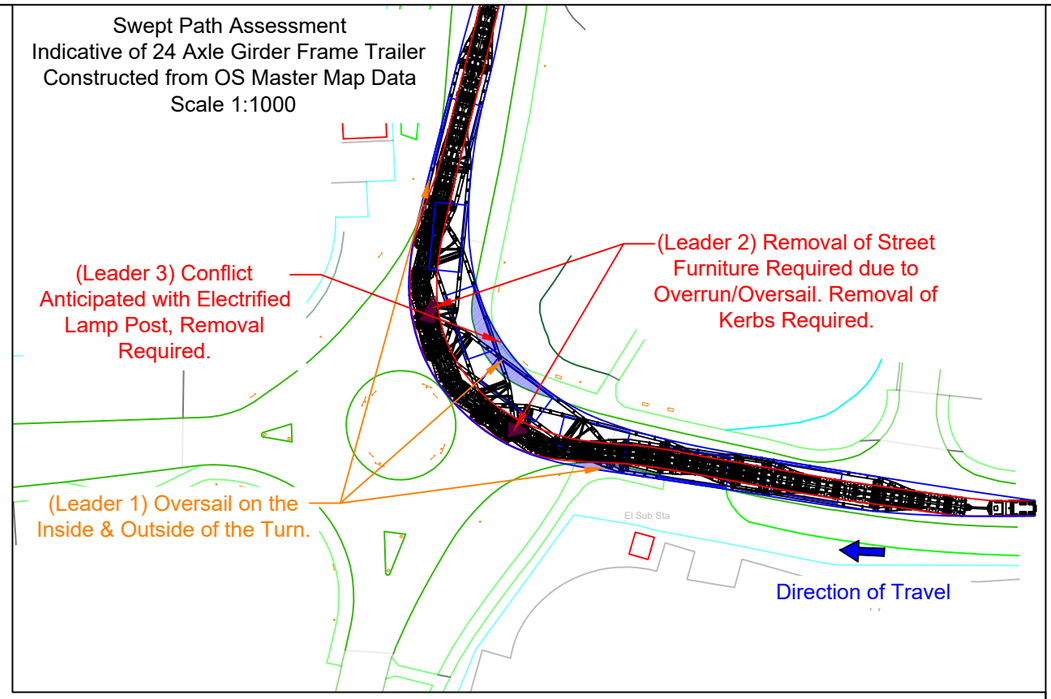
Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP
Dwg. no:	**Sheet:**	**Rev:**
24-1220.SPA02	2 of 2	1

P:\Clients\Existing Clients\RPS\24-1220 Morecombe Offshore wind farm\Swept Path Assessments

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:500



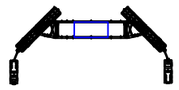
Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:1000



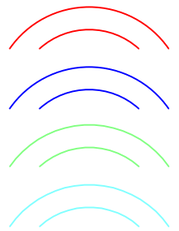
The delivery vehicle can be seen traveling west along Chain Caul Way and negotiating the roundabout in contraflow, turning right to join Nelson Way at approximate Grid Reference SD 50137 29548.
The delivery vehicle is expected to oversail beyond the edge of the road into the footway at several points as it makes the turn (Leader 1). The delivery vehicle is expected to overrun and oversail the centre islands, which will require removal of the street furniture and kerbs to facilitate with relevant plating and packing where necessary (Leader 2). The oversail on the inside of the turn is expected to be in conflict with an electrified lamp post which will require removal in order to facilitate the vehicle (Leader 3).
The configuration is recommended to have full occupation of the carriageway to aid in reducing oversail where possible and to remain within the carriageway. Topographical survey of area is recommended due to tight tolerances, and anticipated conflicts. Subject to carrying out the recommended remedial works, this section is considered to be negotiable for this arrangement.
Note - location of street furniture is approximate and based on OS Mastermap data only, any street furniture within the area highlighted will need to be removed

Location Plan

Legend:



24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02

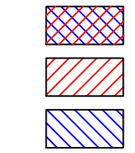


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client:

Project:
Morecombe Offshore Wind Farm

Title:
Swept Path Assessment
Negotiability of right turn from Chain Caul Way onto Nelson Way at Approx OS Grid Ref SD 50137 29548 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

Dwg. no:	Sheet:	Rev:
24-1220.SPA03	1 of 2	0

C:\Users\james.barrett\OneDrive - Wynns\Documents\RPS\Morecombe Offshore Wind Farm\Swept Path Assessments

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from Client Supplied OS Master Map Data
Scale 1:1500

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.

Location Plan

Legend:

- 24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: rps A TETRA TECH COMPANY

Project: **Morecombe Offshore Wind Farm**

Title: Swept Path Assessment
Negotiability of right turn from Chain Caul Way onto Nelson Way at Approx OS Grid Ref SD 50137 29548 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

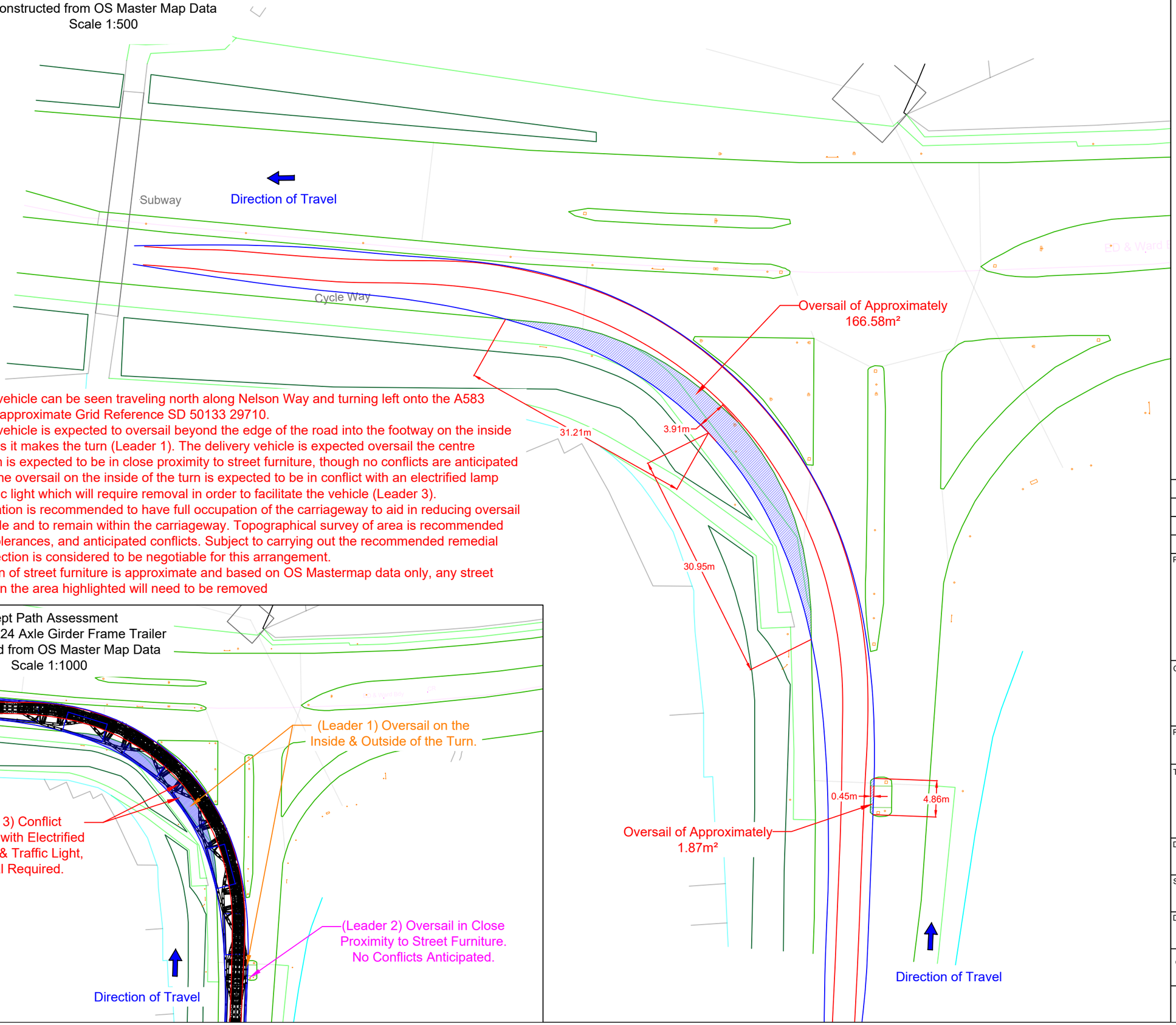
Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

Dwg. no:	Sheet:	Rev:
24-1220.SPA03	2 of 2	0

P:\Clients\Existing Clients\RPS\24-1220 Morecombe Offshore wind farm\Swept Path Assessments

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:500

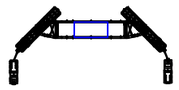


The delivery vehicle can be seen traveling north along Nelson Way and turning left onto the A583 Riversway at approximate Grid Reference SD 50133 29710.
The delivery vehicle is expected to oversail beyond the edge of the road into the footway on the inside and outside as it makes the turn (Leader 1). The delivery vehicle is expected oversail the centre islands, which is expected to be in close proximity to street furniture, though no conflicts are anticipated (Leader 2). The oversail on the inside of the turn is expected to be in conflict with an electrified lamp post and traffic light which will require removal in order to facilitate the vehicle (Leader 3).
The configuration is recommended to have full occupation of the carriageway to aid in reducing oversail where possible and to remain within the carriageway. Topographical survey of area is recommended due to tight tolerances, and anticipated conflicts. Subject to carrying out the recommended remedial works, this section is considered to be negotiable for this arrangement.
Note - location of street furniture is approximate and based on OS Mastermap data only, any street furniture within the area highlighted will need to be removed

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:1000

Location Plan

Legend:



24 axle girder frame trailer
minimum turning arrangements
Drawing ref. 24-1220.TC02

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: rps

Project:
Morecombe Offshore Wind Farm

Title:
Swept Path Assessment
Negotiability of left turn from Nelson Way onto A583 Riversway at Approx OS Grid Ref SD 50133 29710 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

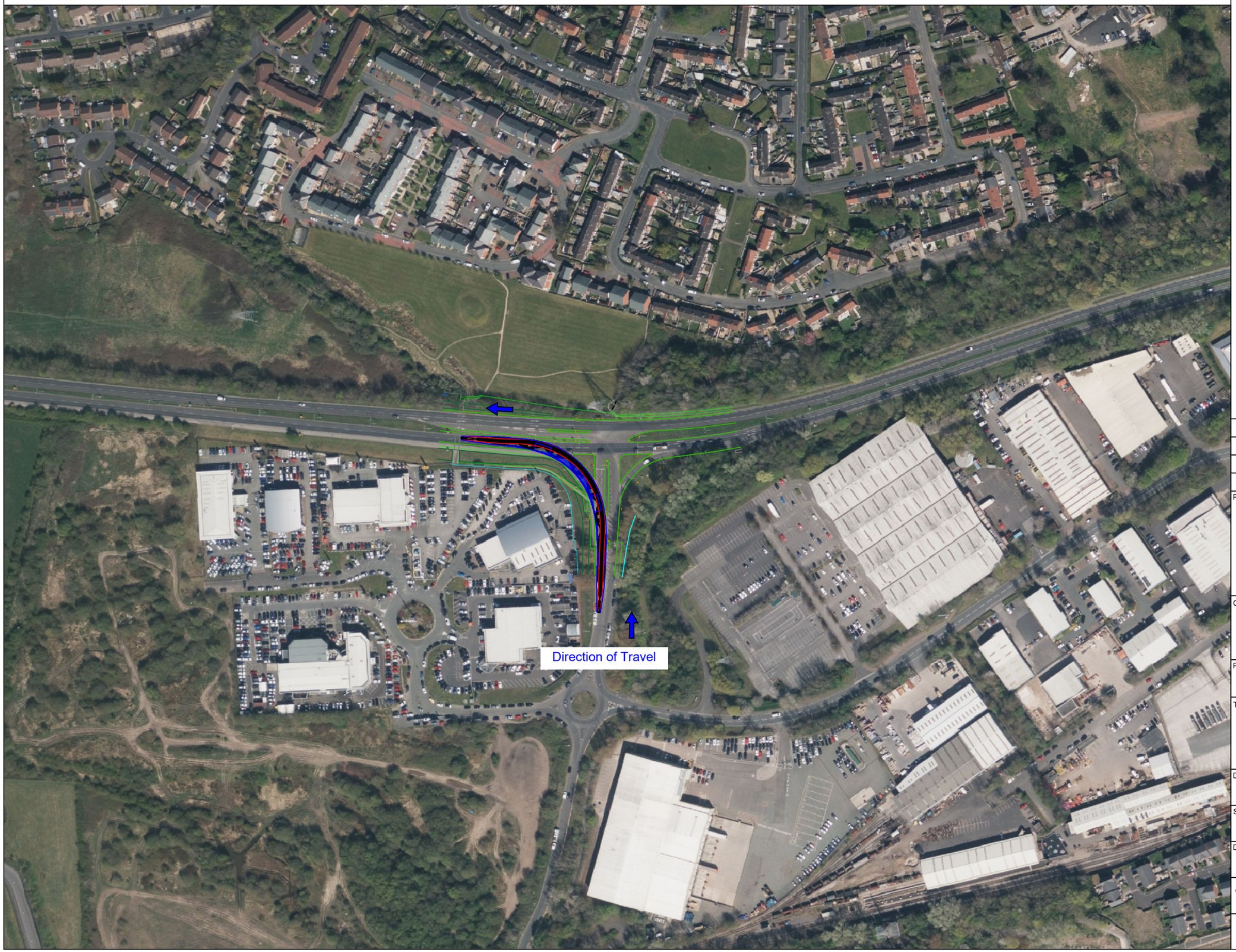
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP
Dwg. no:	**Sheet:**	**Rev:**
24-1220.SPA04	1 of 2	0

C:\Users\james.barrett\OneDrive - Wynns\Documents\RPS\Morecombe Offshore Wind Farm\Swept Path Assessments

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from Client Supplied OS Master Map Data
Scale 1:1500

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.



Location Plan

Legend:

- 24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: rps A TETRA TECH COMPANY

Project: **Morecombe Offshore Wind Farm**

Title: Swept Path Assessment
Negotiability of left turn from Nelson Way onto A583 Riversway at Approx OS Grid Ref SD 50133 29710 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

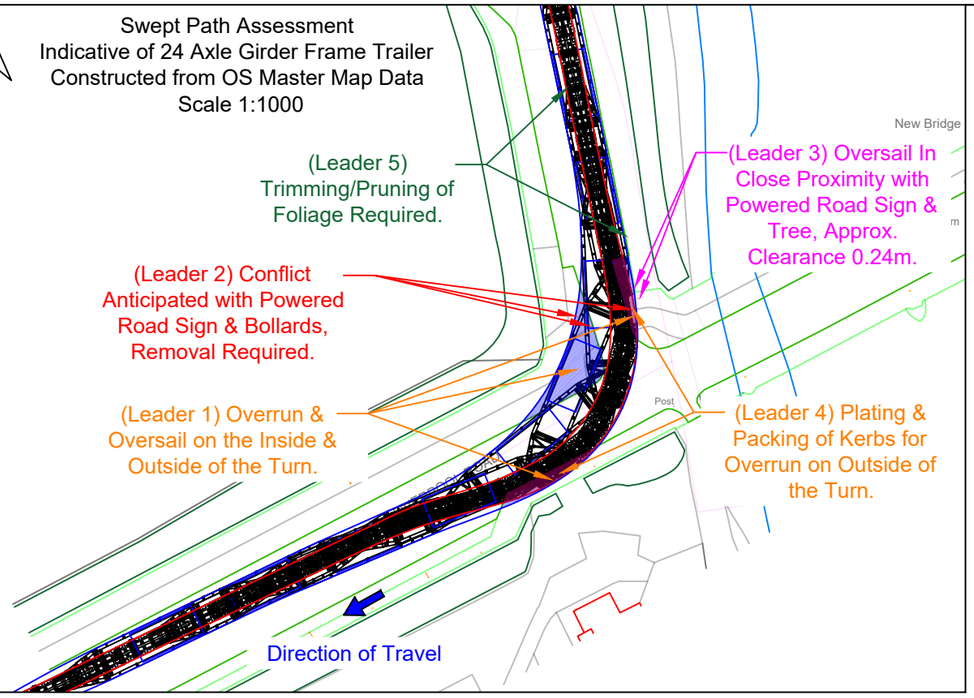
Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

Dwg. no:	Sheet:	Rev:
24-1220.SPA04	2 of 2	0

P:\Clients\Existing Clients\RPS\24-1220 Morecombe Offshore wind farm\Swept Path Assessments

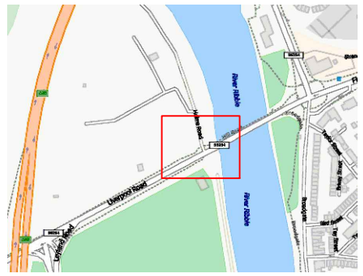
Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:1000



The delivery vehicle can be seen traveling south along Holme Road in reverse and turning right onto Liverpool Road at approximate Grid Reference SD 52715 28814.
The delivery vehicle is expected to overrun and oversail beyond the edge of the road into the footway/ cycleway at several points as it makes the turn (Leader 1). The oversail on the inside and outside of the turn is expected to be in conflict with a powered road sign and bollards which will require removal in order to facilitate the vehicle (Leader 2). The oversail on the outside of the turn is in close proximity to a powered road sign and tree and caution is advised, approximate clearance of 0.24m (Leader 3). Overrun to the outside of the turn is expected to occur and will require plating and packing of kerbs to facilitate the delivery vehicle (Leader 4). Trimming/pruning of foliage along Holme Road may be required, depending on growth the time of manoeuvre (Leader 5). Once the reverse manouevre has taken place, the vehicle will proceed in the correct direction east across the bridge over the river Ribble.
The configuration is recommended to have full occupation of the carriageway to aid in reducing oversail where possible and to remain within the carriageway. Topographical survey of area is recommended due to tight tolerances, and anticipated conflicts. Subject to carrying out the recommended remedial works, this section is considered to be negotiable for this arrangement.
Note - location of street furniture is approximate and based on OS Mastermap data only, any street furniture within the area highlighted will need to be removed.

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:500

Location Plan



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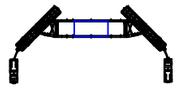
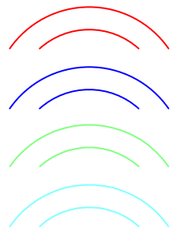


24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02



Extent of vehicle track
Extent of oversail
Extent of road boundary
Extent of property boundary
Overrun and oversail beyond kerb
Overrun beyond kerb
Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
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Tel: (01785) 850411
Independent Transportation Engineers

Client: RPS

Project: **Morecombe Offshore Wind Farm**

Title: Swept Path Assessment
Negotiability of right turn in reverse from Holme Road onto Liverpool Road at Approx OS Grid Ref SD 52715 28814 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

Dwg. no:	Sheet:	Rev:
24-1220.SPA05	1 of 2	0

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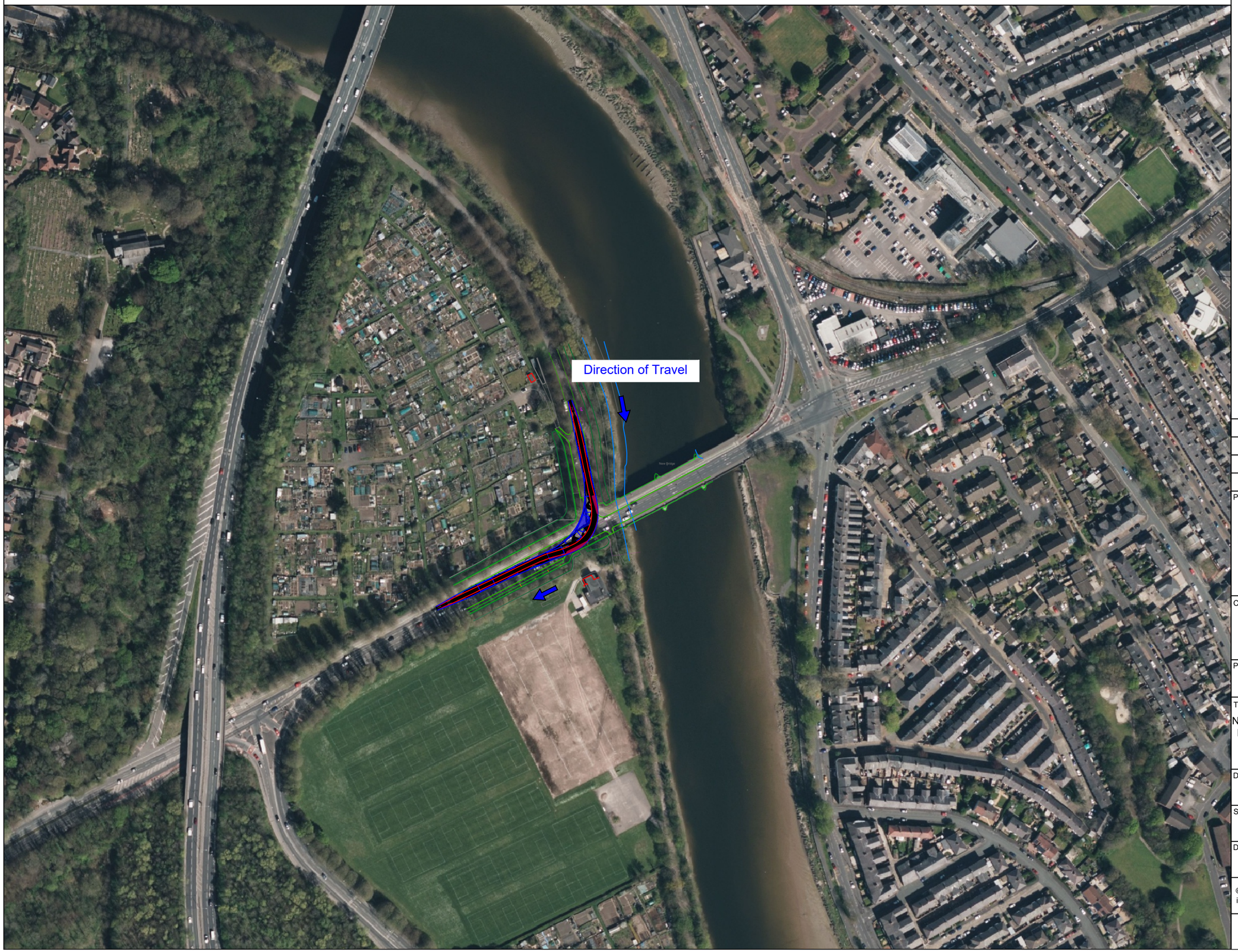
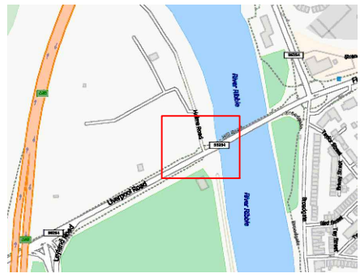
Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from Client Supplied OS Master Map Data
Scale 1:1500

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.



Location Plan



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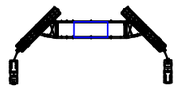
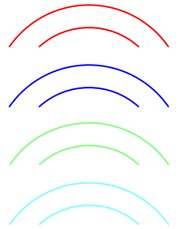


24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02

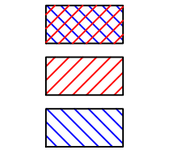


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
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Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:

Morecombe Offshore Wind Farm

Title:

Swept Path Assessment
Negotiability of right turn in reverse from Holme Road onto Liverpool Road at Approx OS Grid Ref SD 52715 28814 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status:

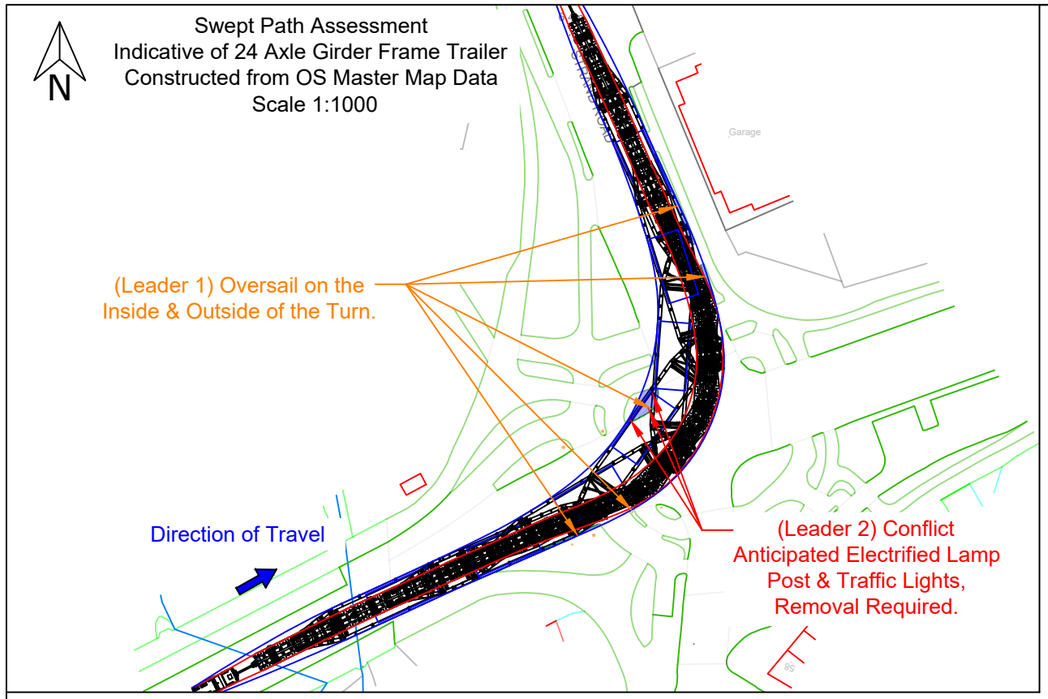
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

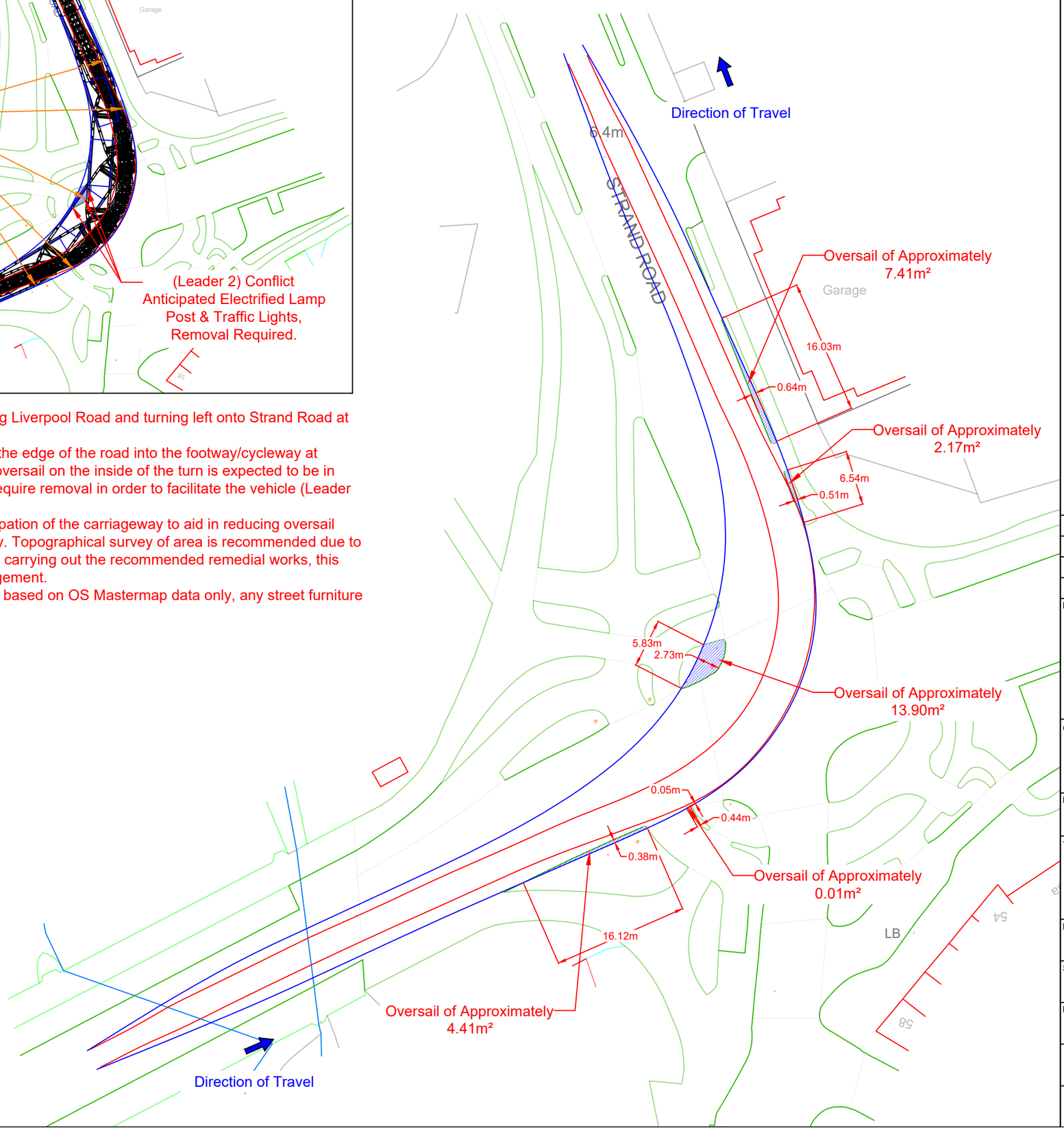
Dwg. no:	Sheet:	Rev:
24-1220.SPA05	2 of 2	0

P:\Clients\Existing Clients\RPS\24-1220 Morecombe Offshore wind farm\Swept Path Assessments

Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:1000

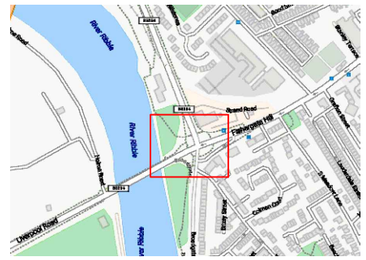


Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:500



The delivery vehicle can be seen traveling east along Liverpool Road and turning left onto Strand Road at approximate Grid Reference SD 52866 28894.
The delivery vehicle is expected to oversail beyond the edge of the road into the footway/cycleway at several points as it makes the turn (Leader 1). The oversail on the inside of the turn is expected to be in conflict with lamp posts and traffic lights which will require removal in order to facilitate the vehicle (Leader 2).
The configuration is recommended to have full occupation of the carriageway to aid in reducing oversail where possible and to remain within the carriageway. Topographical survey of area is recommended due to tight tolerances, and anticipated conflicts. Subject to carrying out the recommended remedial works, this section is considered to be negotiable for this arrangement.
Note - location of street furniture is approximate and based on OS Mastermap data only, any street furniture within the area highlighted will need to be removed.

Location Plan



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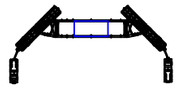
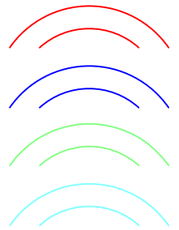
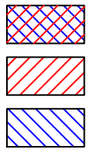


24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02



Extent of vehicle track
Extent of oversail
Extent of road boundary
Extent of property boundary



Overrun and oversail beyond kerb
Overrun beyond kerb
Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
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Tel: (01785) 850411
Independent Transportation Engineers

Client: rps A TETRA TECH COMPANY

Project: **Morecombe Offshore Wind Farm**

Title: Swept Path Assessment
Negotiability of left turn from Liverpool Road onto Strand Road at Approx OS Grid Ref SD 52866 28894 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP
Dwg. no:	**Sheet:**	**Rev:**
24-1220.SPA06	1 of 2	0

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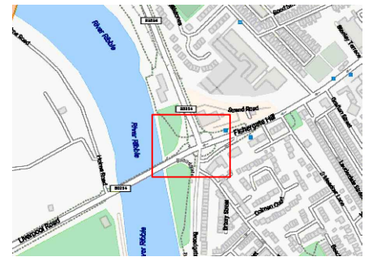
Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from Client Supplied OS Master Map Data
Scale 1:1500

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.

Location Plan



Legend:

24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

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Tel: (01785) 850411

Independent Transportation Engineers

Client: RPS A TETRA TECH COMPANY

Project: **Morecombe Offshore Wind Farm**

Title: Swept Path Assessment
Negotiability of left turn from Liverpool Road onto Strand Road at Approx OS Grid Ref SD 52866 28894 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

Dwg. no:	Sheet:	Rev:
24-1220.SPA06	2 of 2	0

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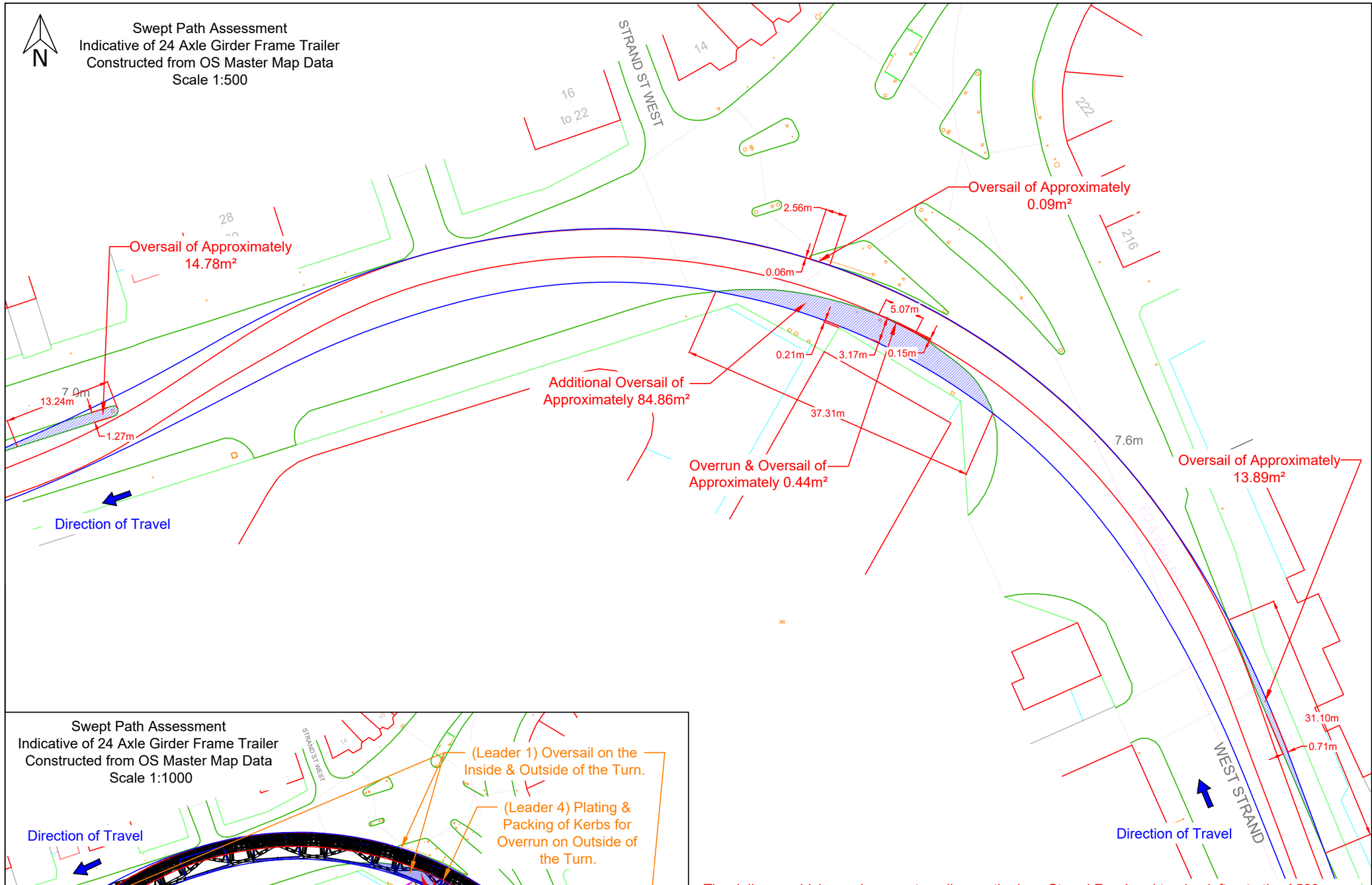
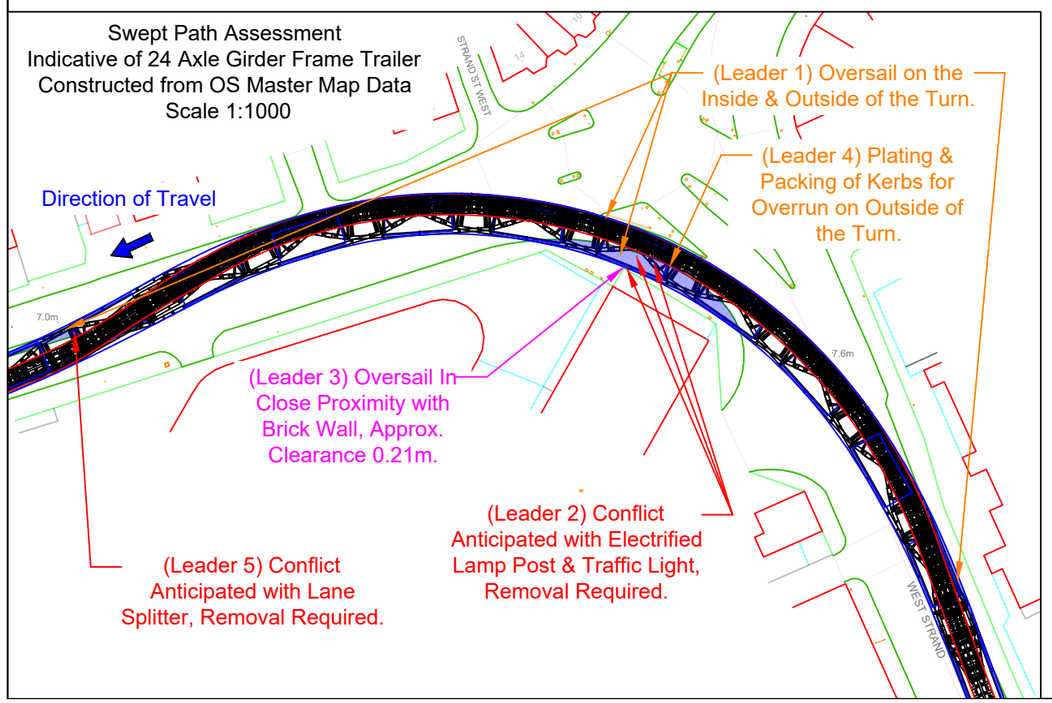
Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:500

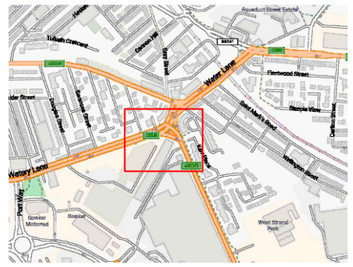


Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from OS Master Map Data
Scale 1:1000



The delivery vehicle can be seen traveling north along Strand Road and turning left onto the A583 Water Lane at approximate Grid Reference SD 52424 29929.
The delivery vehicle is expected to ooversail beyond the road into the footway/cycleway at several points as it makes the turn (Leader 1). The oversail on the inside of the turn is expected to be in conflict with an electrified lamp post and traffic lights which will require removal in order to facilitate the vehicle (Leader 2). The oversail on the inside of the turn is in close proximity to the brick wall and caution is advised, approximate clearance of 0.21m (Leader 3). Overrun to the inside of the turn is expected to occur and will require plating and packing of kerbs to facilitate the delivery vehicle (Leader 4). The oversail on the A583 after the turn is in conflict with the lane splitter on the central island and removal is required (Leader 5).
The configuration is recommended to have full occupation of the carriageway to aid in reducing oversail where possible and to remain within the carriageway. Topographical survey of area is recommended due to tight tolerances, and anticipated conflicts. Subject to carrying out the recommended remedial works, this section is considered to be negotiable for this arrangement.
Note - location of street furniture is approximate and based on OS Mastermap data only, any street furniture within the area highlighted will need to be removed.

Location Plan



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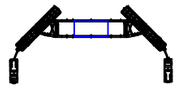

24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

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Independent Transportation Engineers

Client:

Project:

Morecombe Offshore Wind Farm

Title:

Swept Path Assessment
Negotiability of left turn from Strand Road onto A583 Water Lane at Approx OS Grid Ref SD 52424 29929 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status:

Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

Dwg. no:	Sheet:	Rev:
24-1220.SPA07	1 of 2	0

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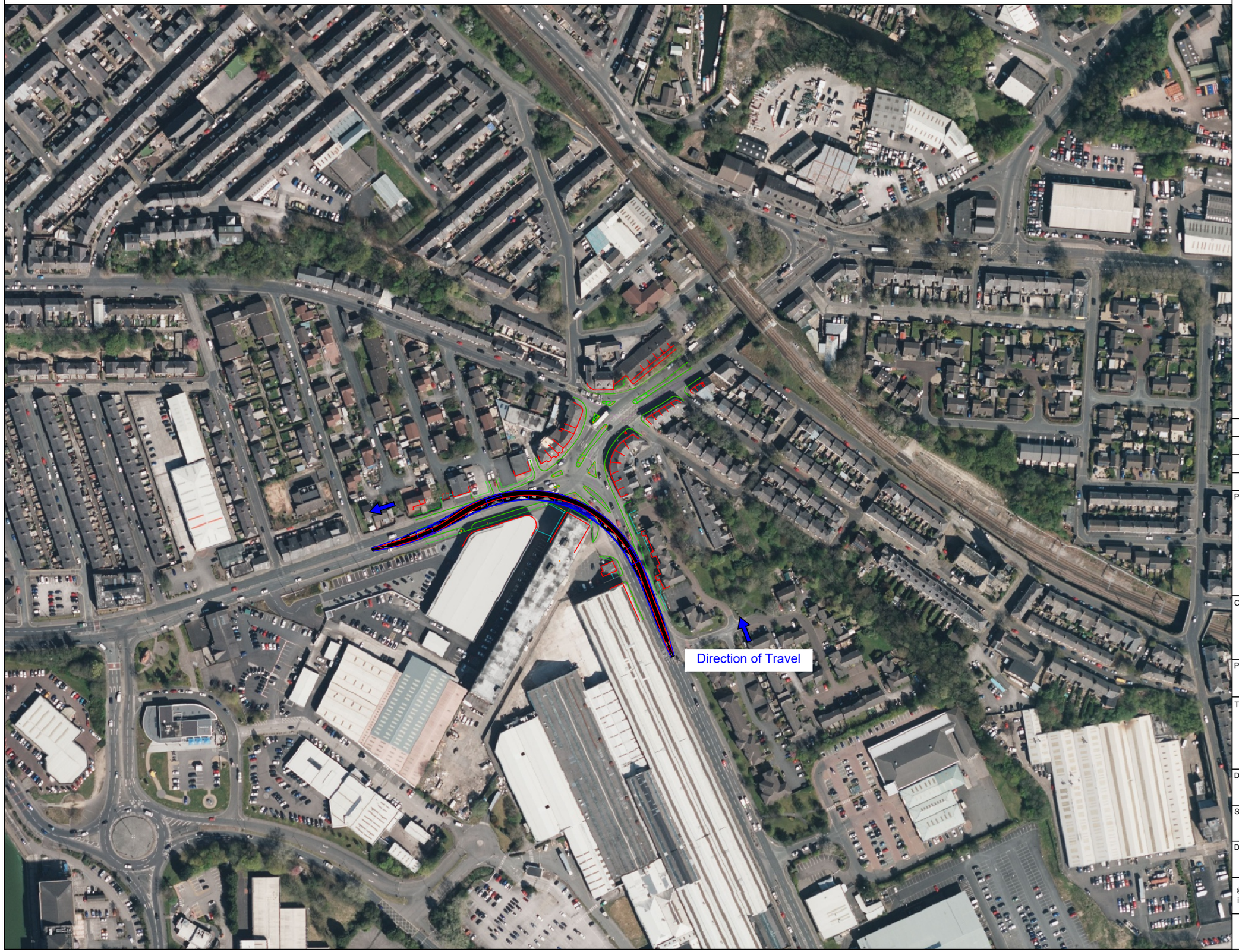
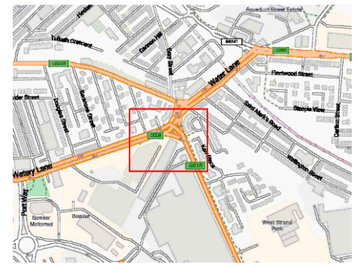
Swept Path Assessment
Indicative of 24 Axle Girder Frame Trailer
Constructed from Client Supplied OS Master Map Data
Scale 1:1500

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.



Location Plan



Legend:

24 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1220.TC02

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	13.05.25	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:

Morecombe Offshore Wind Farm

Title:

Swept Path Assessment
Negotiability of left turn from Strand Road onto A583 Water Lane at Approx OS Grid Ref SD 52424 29929 considerate of indicative 300 te transformer transported on 24 axle girder frame trailer.

Drawing status:

Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	JMB	ARP

Dwg. no:	Sheet:	Rev:
24-1220.SPA07	2 of 2	0

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Appendix 3

Correspondence

21/02/2024	131402	Lancashire CC	WYN-GF-4-24-4	FEASIBILITY - AIL Access Study - W/2024/BD/0027 - RPS Substation Morgan & Morecombe offshore Wind Farm - Transformer - WYN-GF-4-24-4 - ROUTE 1	OK but CAUTION on 1 Structure	Bridge no 632/1 Dow New on the A583 about 0.73 miles SE of Kirkham and about 0.11 miles SE of Dowbridge (-2.856791°E 53.778115°N)
21/02/2024	131403	Lancashire CC	WYN-GF-4-28-4	FEASIBILITY - AIL Access Study - W/2024/BD/0027 - RPS Substation Morgan & Morecombe offshore Wind Farm - Transformer - WYN-GF-4-28-4 - ROUTE 1	OK but CAUTION on 1 Structure	Bridge no 632/1 Dow New on the A583 about 0.73 miles SE of Kirkham and about 0.11 miles SE of Dowbridge (-2.856791°E 53.778115°N)
21/02/2024	131407	Lancashire CC	WYN-DB-4-16	FEASIBILITY - AIL Access Study - W/2024/BD/0027 - RPS Substation Morgan & Morecombe offshore Wind Farm - Transformer - WYN-DB-4-16 - ROUTE 3	OK but CAUTION on 1 Structure	Bridge no 641/2 Dow Brook Ext on the A584 about 0.65 miles NE of Freckleton and about 0.99 miles NE of Newton (-2.852032°E 53.758168°N)
21/02/2024	131408	Lancashire CC	WYN-GF-4-24-4	FEASIBILITY - AIL Access Study - W/2024/BD/0027 - RPS Substation Morgan & Morecombe offshore Wind Farm - Transformer - WYN-GF-4-24-4 - ROUTE 3	OK but CAUTION on 1 Structure	Bridge no 641/2 Dow Brook Ext on the A584 about 0.65 miles NE of Freckleton and about 0.99 miles NE of Newton (-2.852032°E 53.758168°N)
21/02/2024	131409	Lancashire CC	WYN-GF-4-28-4	FEASIBILITY - AIL Access Study - W/2024/BD/0027 - RPS Substation Morgan & Morecombe offshore Wind Farm - Transformer - WYN-GF-4-28-4 - ROUTE 3	OK but CAUTION on 1 Structure	Bridge no 641/2 Dow Brook Ext on the A584 about 0.65 miles NE of Freckleton and about 0.99 miles NE of Newton (-2.852032°E 53.758168°N)