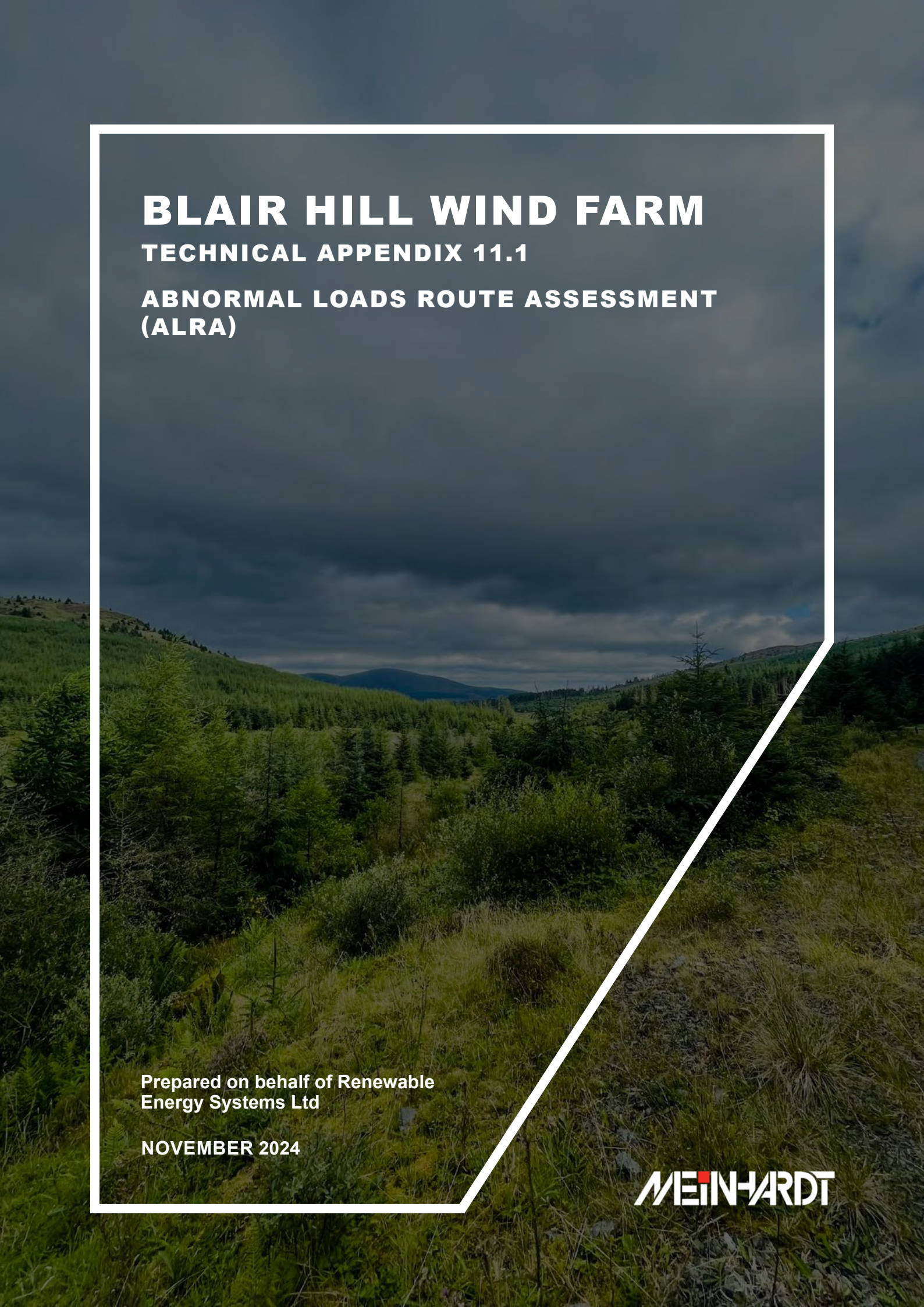


BLAIR HILL WIND FARM

TECHNICAL APPENDIX 11.1

ABNORMAL LOADS ROUTE ASSESSMENT (ALRA)

Prepared on behalf of Renewable Energy Systems Ltd

NOVEMBER 2024

MEINHARDT

CONTENTS

Issue & Date		Issue Title	Prepared by	Checked By	Approved By
1	18/09/23	DRAFT ISSUE	RA	KMCK	CR
2	29/11/23	FINAL ISSUE	RA	KMCK	CR
3	19/07/24	DRAFT ISSUE FOR PLANNING	RA	KMCK	CR
4	23/09/24	FINAL ISSUE FOR PLANNING	RA	KMCK	CR
5	8/11/2024	FINAL ISSUE FOR PLANNING v2	RA	KMCK	CR

01

INTRODUCTION

PROJECT CONTEXT

Meinhardt (UK) Ltd (MHT) has been commissioned by Renewable Energy Systems Limited (RES Ltd) (the applicant) to undertake an Abnormal Loads Route Assessment (ALRA) to support a planning application for the proposed Blair Hill Wind Farm (BHWF) in Dumfries and Galloway, north of Newton Stewart. The ALRA focusses on abnormal load vehicle movement only and does not consider general construction traffic. The ALRA takes cognisance of scoping responses from Transport Scotland (TS) and Dumfries and Galloway Council (DGC); namely:

- *"An Abnormal Loads Routes Assessment (ALRA) Report ...will be provided. Transport Scotland will require to be satisfied that the size of turbines proposed can negotiate the selected route and that their transportation will not have any detrimental effect on structures within the trunk road route path.*
- *The ALRA should identify key pinch points on the trunk road network and swept path analysis should be undertaken with details provided with regard to any required changes to street furniture or structures along the route. (TS)"*
- *"Transport Scotland would expect to see an Abnormal Loads Route Assessment for both tower and blade components.(TS)"*
- *"Proposals for access routes... must be supported by swept path tracks. (DGC)."*

BHWF is proposed to include up to 14 wind turbines with a maximum tip height of 250m. The candidate turbine considered within this ALRA is the Siemens Gamesa SG170 turbine.

This ALRA focuses on the public road network only, taking cognisance of comments received from TS and DGC. The nacelle component (also considered an abnormal load) is excluded from the assessment based on advice from TS.

SITE LOCATION

The BHWF site (the site) is located off of the A712 approximately 5km to the north of Newton Stewart, Dumfries and Galloway. The site is located within land owned and operated by Forestry and Land Scotland (FLS) and is accessed from the A712 via a private access track also owned by FLS.

The site location is shown in Figure 1.

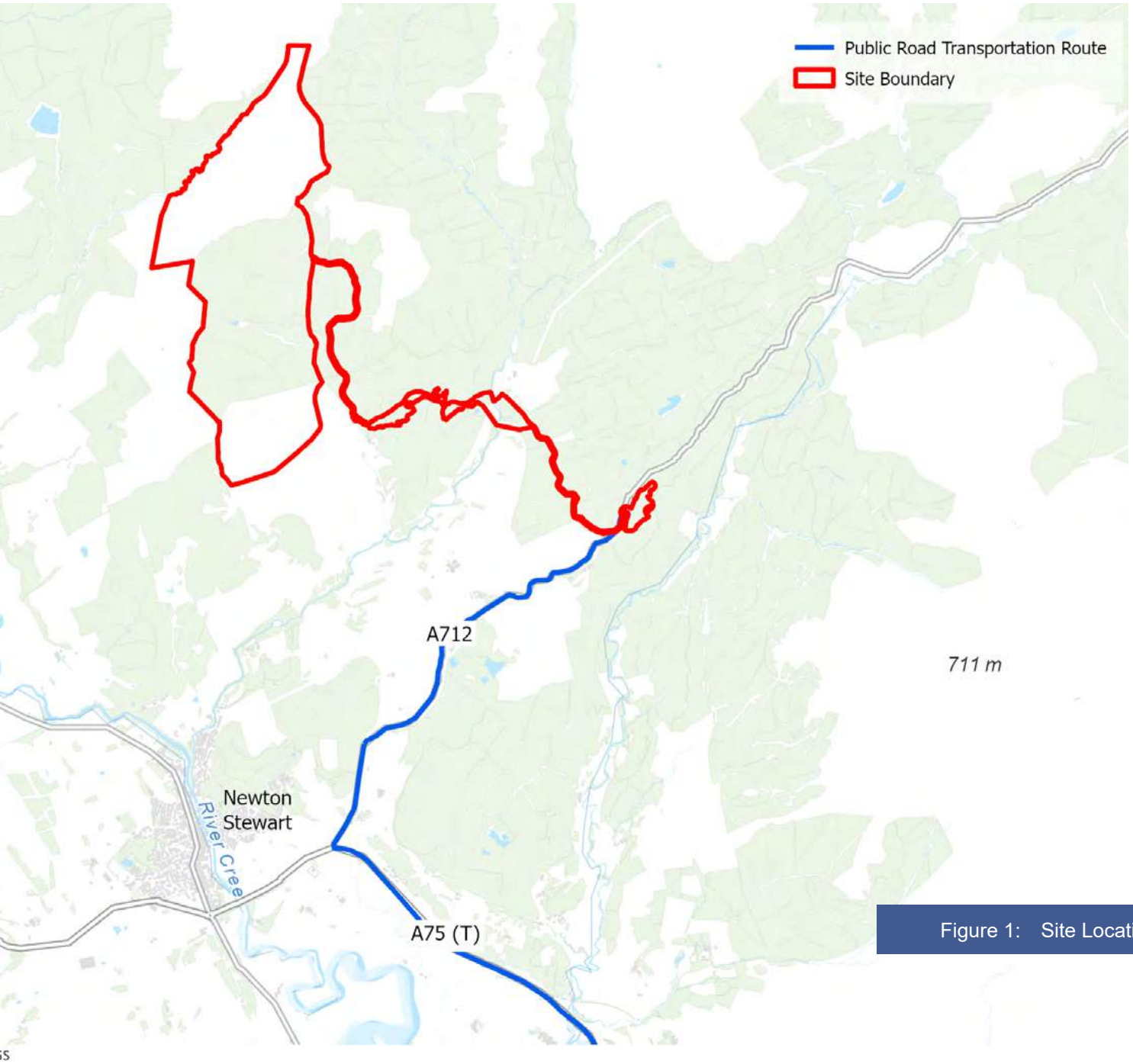


Figure 1: Site Location

ABNORMAL LOADS ROUTE

The proposed abnormal loads route has been established through:

- desktop study using publicly available information including online mapping;
- a physical route drive through which took place on the 3rd August 2023; and
- The use of OS Mastermap data and topographical survey data.

The route commences at King George V Docks (KGV) in Renfrewshire, close to the border with Glasgow City Council. KGV was identified by the applicant at the outset of the project as a preferred Port of Entry (PoE) for the project. Other PoE's such as Cairnryan / Stranraer and Ayr have also been considered and whilst not ruled out as unfeasible at this stage, KGV is taken as the subject PoE for this ALRA.

From KGV, abnormal load carrying vehicles would connect to the M8(M) at Junction 25A before continuing eastbound to join the M74(M) at M74(M) Junction 1 / M8(M) Junction 22.

The route then continues southbound on the M74(M)/A74(T) to the Scotland / England border (approximately 140km). At this point the A74(T) joins the M6 and the route continues southbound to M6 Junction 42 Golden Fleece Interchange.

The route would take the sixth exit of the Golden Fleece Interchange, essentially turning back on itself to head northbound on the M6 and subsequently the A74(T) when back across the Scotland / England border. This movement is required to allow abnormal load vehicles to then exit the A74(T) at Junction 22 and travel westbound on the A75(T) at Gretna.

From here the route continues westbound on the A75(T) for approximately 115km. The route then joins the A712 and travels northbound for approximately 5.9km to an access point on to the FLS land upon which the BHWF site is located. A private access track is included within the site boundary and is accessed via a priority junction off the A712.

Within the site, a new crossing of the Penkiln Burn is required to accommodate abnormal load movements. This diverges from an existing private forestry track, crosses the Penkiln Burn and also crosses Old Edinburgh Road within the site.

Esri UK, Esri, TomTom, Garmin, FAO, NOAA, USGS

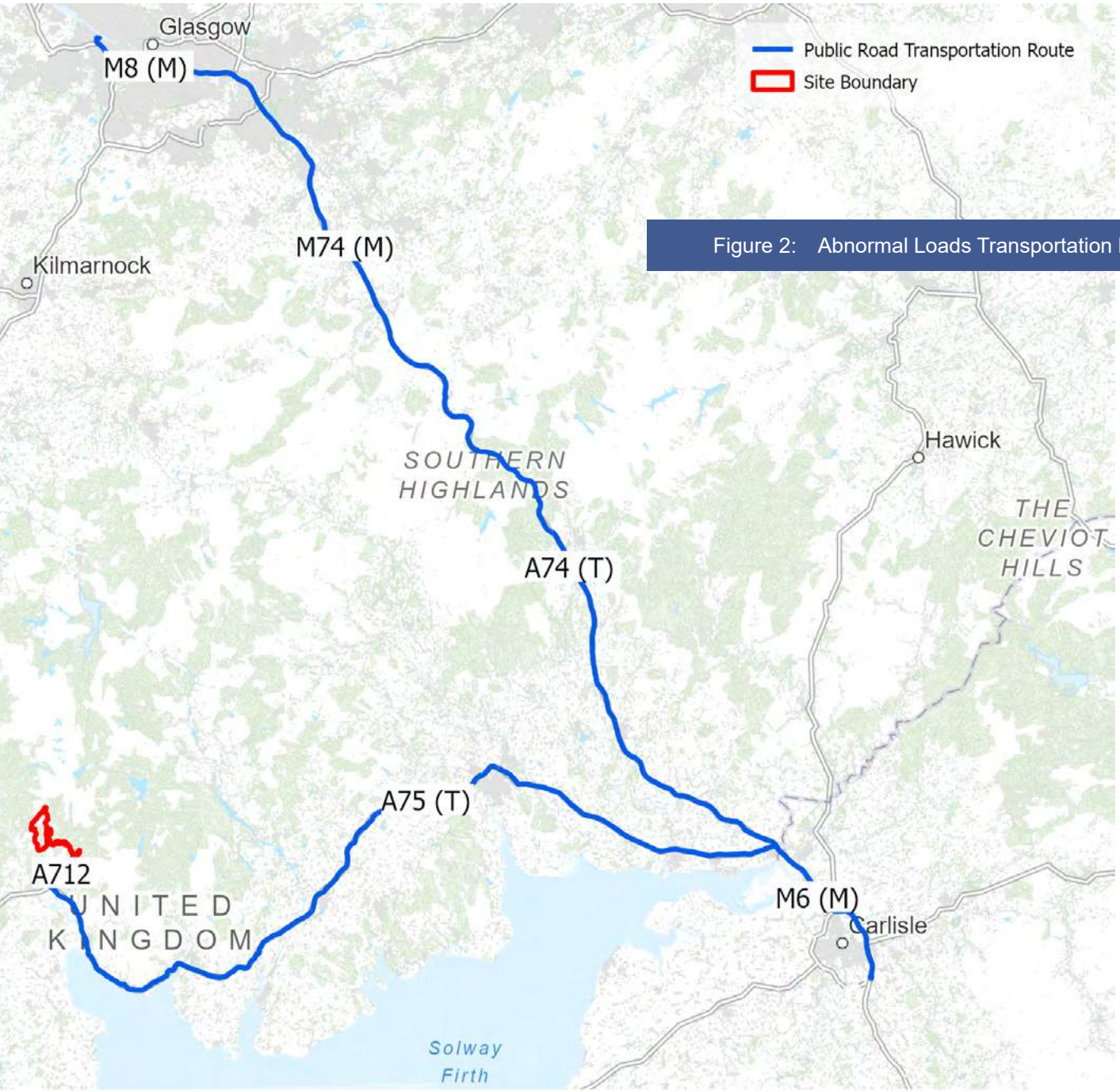


Figure 2: Abnormal Loads Transportation Route

02

ALRA METHODOLOGY

INTRODUCTION

This section will outline the methodology which has been adopted to undertake the ALRA. This includes:

- Site visit and route drive through;
- Height restrictions;
- Candidate turbine specifications, vehicle model build and dimensions;
- Identification of horizontal pinch points; and
- Exclusions from assessment.

SITE VISIT AND ROUTE DRIVE THROUGH

A site visit was undertaken on Thursday 3 August 2023. On the day of the site visit weather conditions were overcast and dry. The site visit included a full drive through of the route from KGV in Renfrewshire to the A712 and included the private access track on FLS land, although this ALRA concentrates on the public road network only.

HEIGHT RESTRICTIONS

Unless otherwise stated a minimum clearance of 5.03m over every part of the carriageway has been presumed. This height limit applies to structures, gantries and Overhead Lines (OHLs) on UK roads and has been extracted from the Health and Safety Executive publication for vertical clearance.

This has been further verified on the sections of the route on the Scottish strategic trunk road network (M8(M), M74(M) / A74 (T) and A75 (T)) as Transport Scotland have confirmed that these make up part of the Scottish Trunk Network High Loads Grid. The High Loads Grid is an advisory network of roads on the strategic trunk road network in Scotland which provide a minimum height clearance of 5.4m (18 feet). These advisory routes are specifically set out for the movement of high

loads.

Vertical clearance has been considered along the route and has informed the choice of wind turbine component being brought forward as part of this planning application. This is detailed further in the following section.

CANDIDATE TURBINE SPECIFICATIONS, VEHICLE MODEL BUILD AND DIMENSIONS

The proposed BHWF includes a tip height of up to 250m for wind turbines. For the purposes of the ALRA, a candidate turbine, namely the Siemens Gamesa SG170 has been used. For tip heights of 250m, the corresponding hub height equates to 165m.

Using a standard wind turbine tower this hub height would require a base tower section with a maximum diameter of 5.8m. Once loaded on to a suitable vehicle for delivery from the PoE this would result in a transport height of approximately 6.0m to 6.5m.

Given this exceeds the minimum vertical clearance of 5.03m on UK roads and 5.4m limit on the High Loads Grid the feasibility of transporting this component is challenging without significant intervention. This has been informed through consultation with abnormal load hauliers, discussion with Transport Scotland and through desktop review of gantry, OHL and structure heights on the route.

As such, a hybrid tower arrangement is considered as part of this ALRA. The hybrid tower arrangement involves the use of concrete tower sections for the base sections of the tower with traditional steel sections used in the mid to upper tower. The advantage of using the hybrid tower arrangement is that it allows the maximum tower section requiring transport to site to be significantly reduced to approximately 4.301m. Concrete base tower sections are batched on site and the largest steel section naturally has a smaller diameter than the standard tower arrangement as it is placed in the mid to upper tower where tapering occurs.

In order to undertake a fully robust assessment, the dimensions of the candidate turbine have been considered in relation to the blade and largest hybrid tower steel section. This has been agreed with Transport Scotland. The maximum component dimension from each of the abnormal load components has been considered.

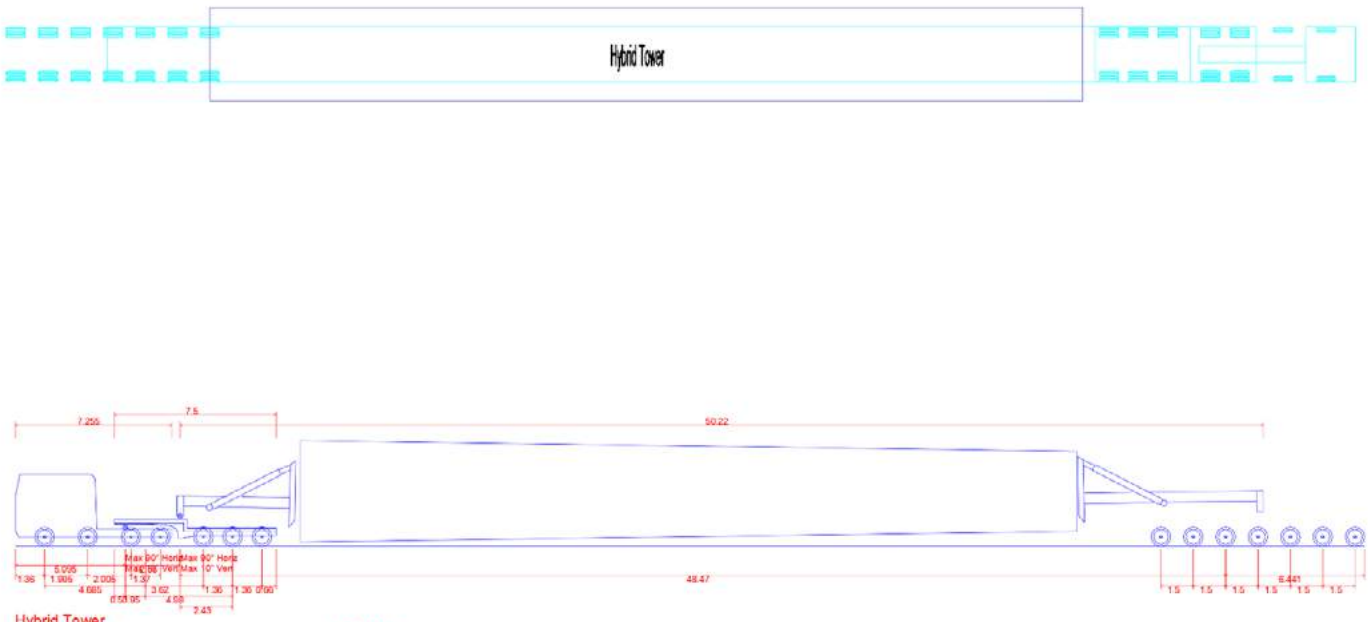
Table 1 provides an outline of the component dimensions utilised in this ALRA as informed by the Siemens Gamesa SG170 Site Requirements Specifications.

Table 1: Turbine Components Dimensions

Turbine Component	Length (m)	Width (or large diameter) (m)	Height (m)
Blade	83.40	4.5	3.4
Tower Section (hybrid)	36.00	4.301	4.301

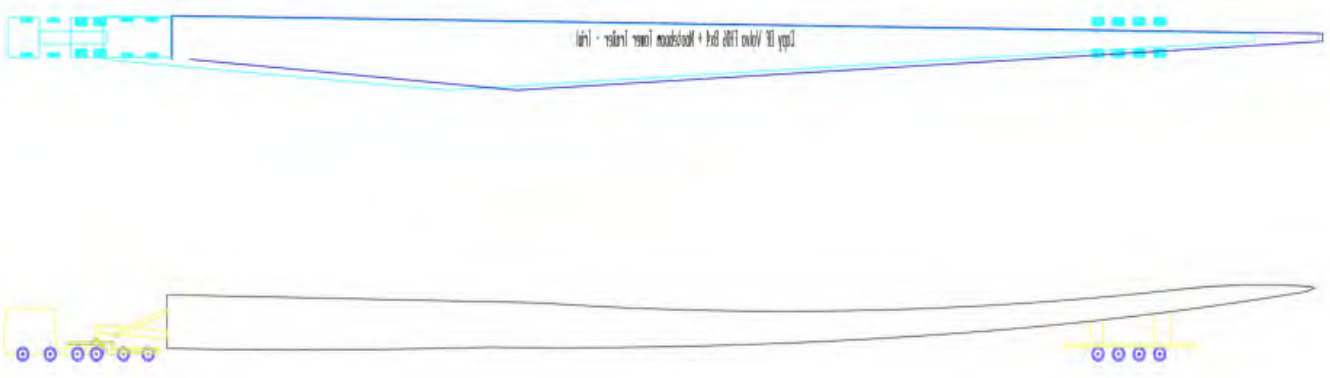
Along with the turbine component specifications, typical transportation vehicles used for abnormal load transportation in the UK have been utilised to produce vehicle models in AUTOCAD Vehicle Tracking Software. These are then used to prepare Swept Path Analysis (SPA) as part of the ALRA.

The vehicle models and loads used within the ALRA are shown in Figure 3 and Figure 4.



Hybrid Tower	
Overall Length	62.556m
Overall Width	2.550m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m

Figure 3: Tower Section



Copy Of Volvo FH16 8x4 + Nooteboom Tower Trailer - Trial	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m

Figure 4: Blade

IDENTIFICATION OF PINCH POINTS

Pinch points are defined as constraints on the road network which may impact the successful delivery of turbine components and therefore warrant further investigation. Examples include road narrowing, structures, junctions and street furniture / landscaping. For the purposes of this ALRA, only horizontal pinch points are taken forward for SPA in Chapter 3 of this report.

Potential vertical pinch points have been considered through desk top study and the site visit undertaken. There are no signposted road gradient warning signs along the entire route. As such it is presumed that there are no gradient issues to contend with on the public road network. As such, no vertical pinch points have been identified which would preclude the delivery of turbine components to the site, subject to agreement with the appointed haulier, use of the hybrid tower arrangement and a dry run of the primary delivery route.

Initially horizontal pinch points have been identified through three avenues:

1. The use of geospatial information, which has been used to identify a presumed highway boundary (either 3m from the carriageway or to the first fence / wall line).
2. Site visit drive through.
3. Desktop review.

The use of geospatial information has been considered to create a simplified vehicle model to run along the route. This simplified vehicle model incorporated the SG170 blade only, as the most robust turbine component in terms of length. The simplified blade model does not incorporate rear steer and therefore creates a robust version of the detailed model used for SPA, detailed in Section 3. The simplified model has been run along the centreline of the preferred route to identify where clashes with the highway boundary occur. This highlights a potential horizontal pinch point along the route. This is then considered further via information gained through the site visit and desktop review to determine if each horizontal pinch point identified using the simplified blade model is valid.

Through this process a total of 32 horizontal pinch points have been identified on the public road network as requiring SPA to confirm suitability and potential requirement for mitigation to accommodate abnormal loads associated with the project. These are shown in Figure 5 and Figure 6.

The SPA demonstrates each abnormal load component (blade and tower) manoeuvring at each identified pinch point to show if any oversail or overrun of the road carriageway and presumed highway boundary occurs.

No structural assessment of bridges and structures in included as part of this ALRA, however, consultation with DGC bridges and structures team has highlighted two structures on the A712 which require to be traversed as part of the abnormal loads route. No concerns over these structures were raised by DGC Bridges during consultation.

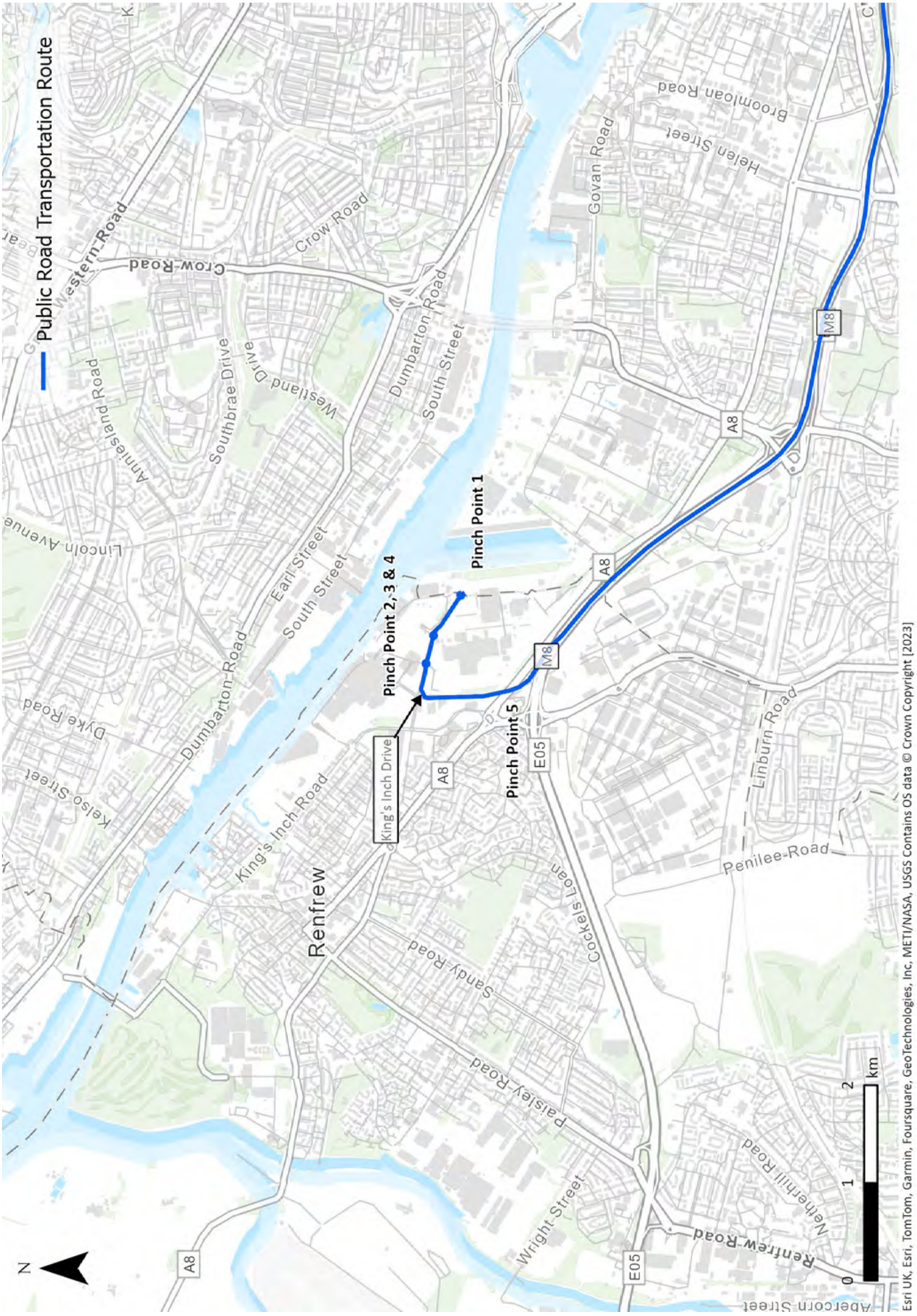


Figure 5: Horizontal Pinch Points

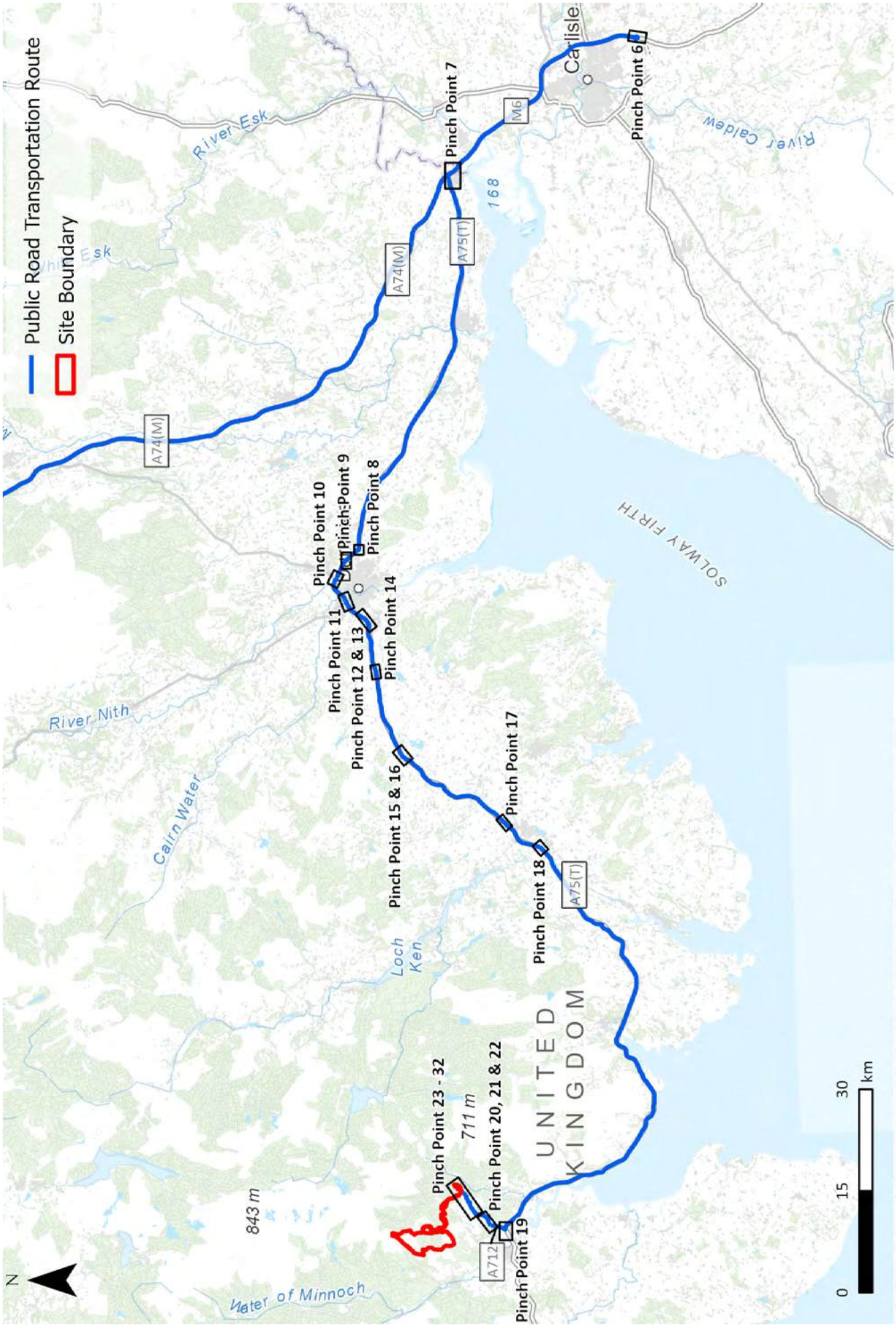


Figure 6: Horizontal Pinch Points

03

ALRA RESULTS

INTRODUCTION

This section of the ALRA provides the results of the SPA exercise carried out and included in Appendix A. This forms the main basis of the report conclusions. As identified in Chapter 2, a total of 32 horizontal pinch points have been considered. Drawings demonstrating the results of the SPA are included in Appendix A of this report.

RISK RATING

A Red / Amber / Green risk rating is applied to each horizontal pinch point to provide a simple method of categorising the risk at each pinch point. The risk ratings are defined as below:

- Green (Low Risk): Component can get past the obstacle with no need for land take, modification or street furniture removal. Manual (rear) steering may be required. Oversail within presumed highway boundary is acceptable;
- Amber (Medium Risk): Minor works required – street furniture removal, vegetation trimming, over run on highway boundary etc; and
- Red (High Risk): Action required – Third party land required, modification required, the component cant make it past the obstacle without significant mitigation.

Table 2 provides a summary of the risk rating applied to each turbine component at each horizontal pinch point.

Table 2: Risk Rating Summary

Pinch Point	Description	Turbine Component	
		Blade	Tower Section
1	Kings Inch Drive Roundabout at KGV		
2	Kings Inch Drive Roundabout		
3	Kings Inch Drive Roundabout at Marlinford Road		
4	Left Turn Kings Inch Drive / Mayo Avenue		
5	Merge onto M8 at junction 25A		
6	M6 Junction 42 Roundabout		
7	M74(M) Junction 22 diverge to A75(T)		
8	A75(T) / A780 Roundabout		
9	A75(T) / A709 Roundabout		

Pinch Point	Description	Turbine Component	
		Blade	Tower Section
10	A75(T) / A701(T) Bloomfield Roundabout		
11	A75(T) / A76(T) Glasgow Road Cuckoo Bridge Roundabout		
12	A75(T) / A780 Roundabout		
13	A75(T) / Garroch Roundabout		
14	A75(T) / Drummore Roundabout		
15	A75(T) / Castle Douglas Road		
16	A75(T) / Castle Douglas Road		
17	A75(T) / A745 Allanton Roundabout		
18	A75(T) / B736 Roundabout		

Pinch Point	Description	Turbine Component	
		Blade	Tower Section
19	A75(T) Right Turn onto A712		
20	Right Bend Doon Wood A712		
21	Right Bend North of Lang Tower A712		
22	Shallow Left Bend A712		
23	Shallow Bend A712		
24	Right Bend Glenarmour A712		
25	Right Bend A712		
26	S-Bend A712		
27	S-Bend A712		

Pinch Point	Description	Turbine Component	
		Blade	Tower Section
28	S-Bend A712		
29	Shallow S-Bend A712		
30	Sharp Bend A712		
31	Left Bend A712		
32	Left turn onto private access junction to FLS land from A712		

ALRA RESULTS

SPA has been undertaken at the identified pinch points to establish the feasibility of transporting each SG170 component (blade and hybrid tower section) through each pinch point. SPA considers horizontal alignment predominantly and has been undertaken using OS mapping which typically has an accuracy of plus / minus 1 metre. Pinch Points 19, 20, 21, 23, 24, 26, 27, 28, 29, 30, 31 and 32 have been assessed using topographical survey data due to availability of this data. The full SPA results, including mitigation measures recommended, are included in Appendix A and summarised in Table 3.

Table 3: ALRA SPA Results Summary

Pinch Point	Turbine Component	
	Blade	Tower Section
	Platform to support additional weight may be required- Removal of street furniture: Road signs	Platform to support additional weight may be required - Removal of street furniture: Road signs
	Removal of street furniture: Lighting columns, Trees, Road Signs	Removal of street furniture: Lighting columns, Trees, Road Signs
	Removal of street furniture: Road signs	

Pinch Point	Turbine Component	
	Blade	Tower Section
	Removal of street furniture: Lighting column, Pedestrian guard rail, Traffic lights, Road signs	Removal of street furniture: Lighting column, Pedestrian guard rail, Traffic lights, Road signs
	Removal of Street Furniture: Guardrail	
	Turbine to oversail safety barrier. - Removal of illuminated chevron. - Recommended to have vegetation trimmed - Removal of street furniture: Road signs, Lighting columns.	Turbine to oversail safety barrier. - Removal of illuminated chevron. - Recommended to have vegetation trimmed - Removal of street furniture: Road signs, Lighting columns.
		

Pinch Point	Turbine Component	
	Blade	Tower Section
	Vegetation to be trimmed back - Removal of street furniture: Road signs, Lighting column	Removal of street furniture: Road signs, Lighting column
	Earthwork measures may be required to provide ground clearance on roundabout- Removal illuminated chevron - Existing trees to be removed and Vegetation to be trimmed back - Removal of street furniture: Road signs, Lighting columns	Earthwork measures may be required to provide ground clearance on roundabout- Removal illuminated chevron - Existing trees to be removed and Vegetation to be trimmed back - Removal of street furniture: Road signs, Lighting columns
	Earthwork measures may be required to provide ground clearance on roundabout- Removal illuminated chevron - Existing trees removed and Vegetation trimmed back - Removal of street furniture: Road signs, Lighting columns, Electric junction box	
	Earthwork measures may be required to provide ground clearance on roundabout - Vegetation trimmed back allow oversail to occur	

Pinch Point	Turbine Component	
	Blade	Tower Section
12 	Earthwork measures may be required to provide ground clearance on roundabout- Removal Chevron Sign - Existing prepared area utilised for oversail subject inspection during dry run - Removal of street furniture: road signs, Lighting columns	Earthwork measures may be required to provide ground clearance on roundabout- Removal Chevron Sign - Existing prepared area utilised for oversail subject inspection during dry run
13 	Earthwork measures may be required to provide ground clearance on roundabout - Removal of street furniture: Lighting columns, Road sign	Earthwork measures may be required to provide ground clearance on roundabout - Removal of street furniture: Lighting columns, Road sign
14 	Removal Chevron Sign - Existing prepared area utilised for oversail subject inspection during dry run - Removal of street furniture: Street lighting	Removal Chevron Sign - Existing prepared area utilised for oversail subject inspection during dry run
15 	Removal of central reservation signs in preparation for vehicles	Removal of central reservation signs in preparation for vehicles

Pinch Point	Turbine Component	
	Blade	Tower Section
	Removal of central reservation signs in preparation for vehicles	Removal of central reservation signs in preparation for vehicles
	Earthwork measures may be required to provide ground clearance roundabout- Removal Chevron Sign - Existing prepared area utilised oversail subject inspection during dry run - Removal street furniture: Lighting columns	Earthwork measures may be required to provide ground clearance roundabout- Removal Chevron Sign - Existing prepared area utilised oversail subject inspection during dry run
	Earthwork measures may be required to provide ground clearance roundabout- Removal Chevron Sign - Existing prepared area utilised oversail subject inspection during dry run - Removal street furniture: Lighting columns - Safety barrier clearance to be confirmed	Earthwork measures may be required to provide ground clearance roundabout- Removal Chevron Sign - Existing prepared area utilised oversail subject inspection during dry run - Removal street furniture: Lighting columns - Safety barrier clearance to be confirmed
	Third party landtake required - Existing vegetation removed or trimmed - Removal: Multiple road signs, Existing trees, Utility poles	Third party landtake required - Existing vegetation removed or trimmed - Removal: Multiple road signs, Existing trees, Utility poles

Pinch Point	Turbine Component	
	Blade	Tower Section
	Supporting surface may be required to help additional load - Third party land required - Removal of wall, fence and gate,trees - Vegetation trimmed back	Existing trees and vegetation to be removed
	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation	Existing trees and vegetation to be removed
	Existing trees and vegetation to be removed	
	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation	

Pinch Point	Turbine Component	
	Blade	Tower Section
	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation
	Existing trees and vegetation to be removed	
	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation	Existing trees and vegetation to be removed - Supporting surfaces installed help additional load
	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation	Existing trees and vegetation to be removed

Pinch Point	Turbine Component	
	Blade	Tower Section
	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation	Existing trees and vegetation to be removed
	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation	Existing trees and vegetation to be removed
	Supporting surfaces may be required to help additional load - Third party land required - Removal trees and Vegetation	Existing trees and vegetation to be removed
	Existing trees and vegetation to be removed	Existing trees and vegetation to be removed

Pinch Point	Turbine Component	
	Blade	Tower Section
	Removal of trees and vegetation to allow vehicle access Third party land required - Removal trees and Vegetation	Removal of trees and vegetation to allow vehicle access Third party land required - Removal trees and Vegetation

Although not defined as a pinch point, the alignment of the proposed crossing over the Penkiln Burn which interacts with Old Edinburgh Road has also been considered. SPA of this alignment with the blade component only is also included in Appendix A.

CONCLUSIONS

SPA has been undertaken at an identified 32 pinch points between KGV docks and the A712 junction with the FLS private access track for BHWF. The results of the SPA show that a total of 11 of the pinch points identified are deemed as high risk locations. This is primarily due to encroachment on third party land. All high risk pinch points are between the A75 (T) junction with the A712 and the A712 junction with the FLS private access track. This means that the majority of the route can be traversed by all abnormal load components with only medium or low risk mitigations required such as removal of street furniture and vegetation trimming.

Those rated with a red risk are subject to negotiation with third party land owners and mitigations such as surface strengthening and carriageway widening where appropriate. Areas for mitigation are set out in the suite of drawings included in Appendix A.

04

SUMMARY & CONCLUSIONS

SUMMARY

This Abnormal Loads Route Assessment (ALRA) has been prepared in support of a planning application for up to 14 wind turbines with a tip height of up to 250m and associated infrastructure known as Blair Hill Wind Farm (BHWF). The ALRA provides a review of the transportation of the Siemens Gamesa SG170 (candidate turbine) to BHWF. One preferred route has been reviewed from King George V (KGV) Docks in Renfrewshire to the site access point on the A712 in Dumfries & Galloway. Alternative routes have also been considered at a desktop level, however, for the purposes of the planning application only the route from KGV Docks is considered.

A swept path analysis exercise has been conducted which includes the identification of 32 pinch points on the preferred route. These have been assessed in terms of their ability to accommodate the candidate turbine blade and tower components. Where appropriate and required, areas for mitigation have been identified along the route, including encroachment in to third party land.

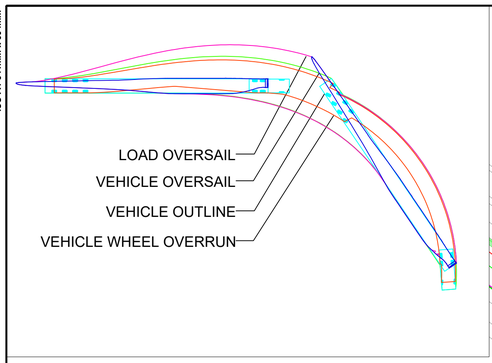
CONCLUSIONS

Based on the results of this assessment there would be confidence that the preferred route could accommodate abnormal load traffic associated with BHWF with mitigation as set out in this ALRA, based on the use of the SG170 wind turbine and subject to agreement with third party land owners.

APPENDIX A

SWEPT PATH ANALYSIS

ISO A1 841mm x 594mm

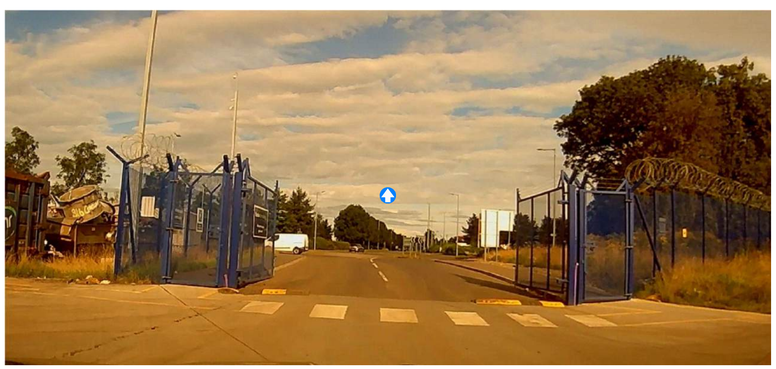


MEDIUM

REMOVAL OF STREET FURNITURE: ROAD SIGNS

PLATFORM MAY BE REQUIRED TO SUPPORT ADDITIONAL WEIGHT TO BE INSTALLED

El Sub Sta

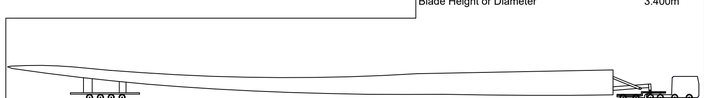


0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

SG170 Turbine Component Transporter

Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m



FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

NOTES:

1. DO NOT SCALE, ALL MEASUREMENTS AND COORDINATES TO BE CHECKED ON SITE.
2. ALL MAPPING INFORMATION TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
3. INDICATIVE VEHICLE MODELS ARE DESIGNED USING TECHNICAL SPECIFICATIONS. RESULTS SHOULD BE REVIEWED BY HAULIER, INCLUDING A DRY RUN ON SITE, PRIOR TO COMMENCEMENT ON SITE.
4. VERTICAL CLEARANCE HAS BEEN INFORMED VIA DESKTOP STUDY AND SITE VISIT ONLY. CONFIRMATION REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

MEINHARDT
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Telephone: +44 (0) 141 378 4235
www.meinhardt.co.uk

PROJECT
BLAIR HILL WIND FARM

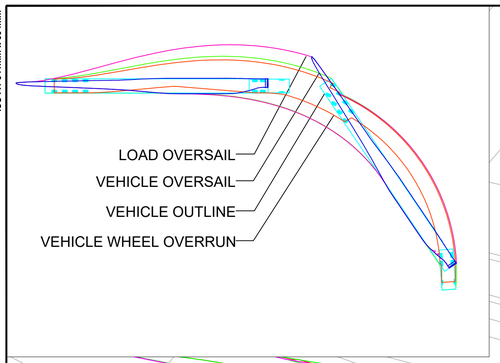
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 1

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0001			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

REMOVAL OF STREET FURNITURE: ROAD SIGNS

REMOVAL OF STREET FURNITURE: LIGHTING COLUMNS, TREES

Gas Gov

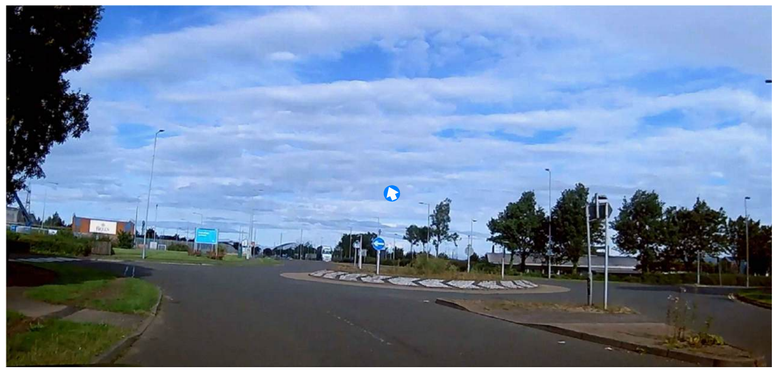
KINGS INCH DRIVE

NOTES:

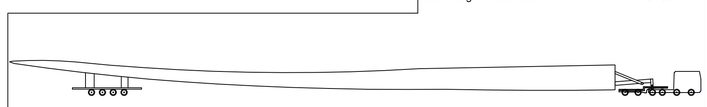
1. DO NOT SCALE, ALL MEASUREMENTS AND COORDINATES TO BE CHECKED ON SITE.
2. ALL MAPPING INFORMATION TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
3. INDICATIVE VEHICLE MODELS ARE DESIGNED USING TECHNICAL SPECIFICATIONS. RESULTS SHOULD BE REVIEWED BY HAULIER, INCLUDING A DRY RUN ON SITE, PRIOR TO COMMENCEMENT ON SITE.
4. VERTICAL CLEARANCE HAS BEEN INFORMED VIA DESKTOP STUDY AND SITE VISIT ONLY. CONFIRMATION REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.



SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m



0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

MEINHARDT
1st Floor, 9 George Square, Glasgow, G2 1DY
Telephone: +44 (0) 141 378 4235
www.meinhardt.co.uk

PROJECT
BLAIR HILL WIND FARM

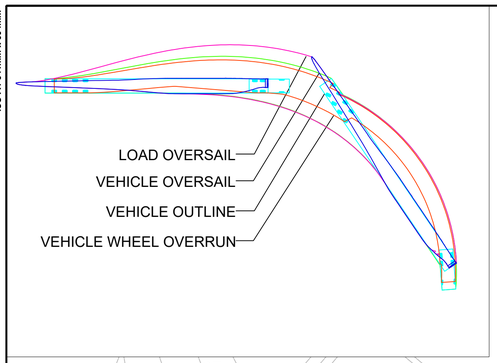
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 2

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0002			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

NOTES:

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4. VERTICAL CLEARANCE HAS BEEN INFORMED VIA DESKTOP STUDY AND SITE VISIT ONLY. CONFIRMATION REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

REMOVAL OF STREET FURNITURE: ROAD SIGNS

KINGS INCH DRIVE

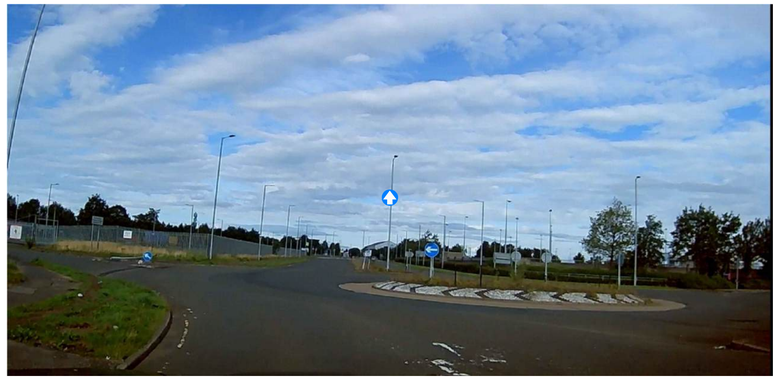
El Sub Sta

Gas Gov

KINGS INCH DRIVE

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.



0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m

MEINHARDT
1st Floor, 9 George Square, Glasgow, G2 1DY
Telephone: +44 (0) 141 378 4235
www.meinhardt.co.uk

PROJECT
BLAIR HILL WIND FARM

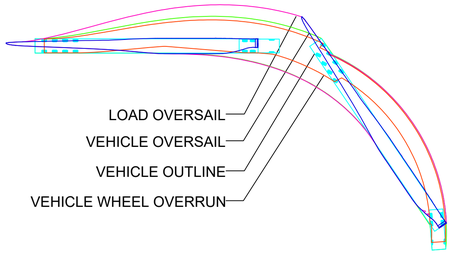
CLIENT
RES

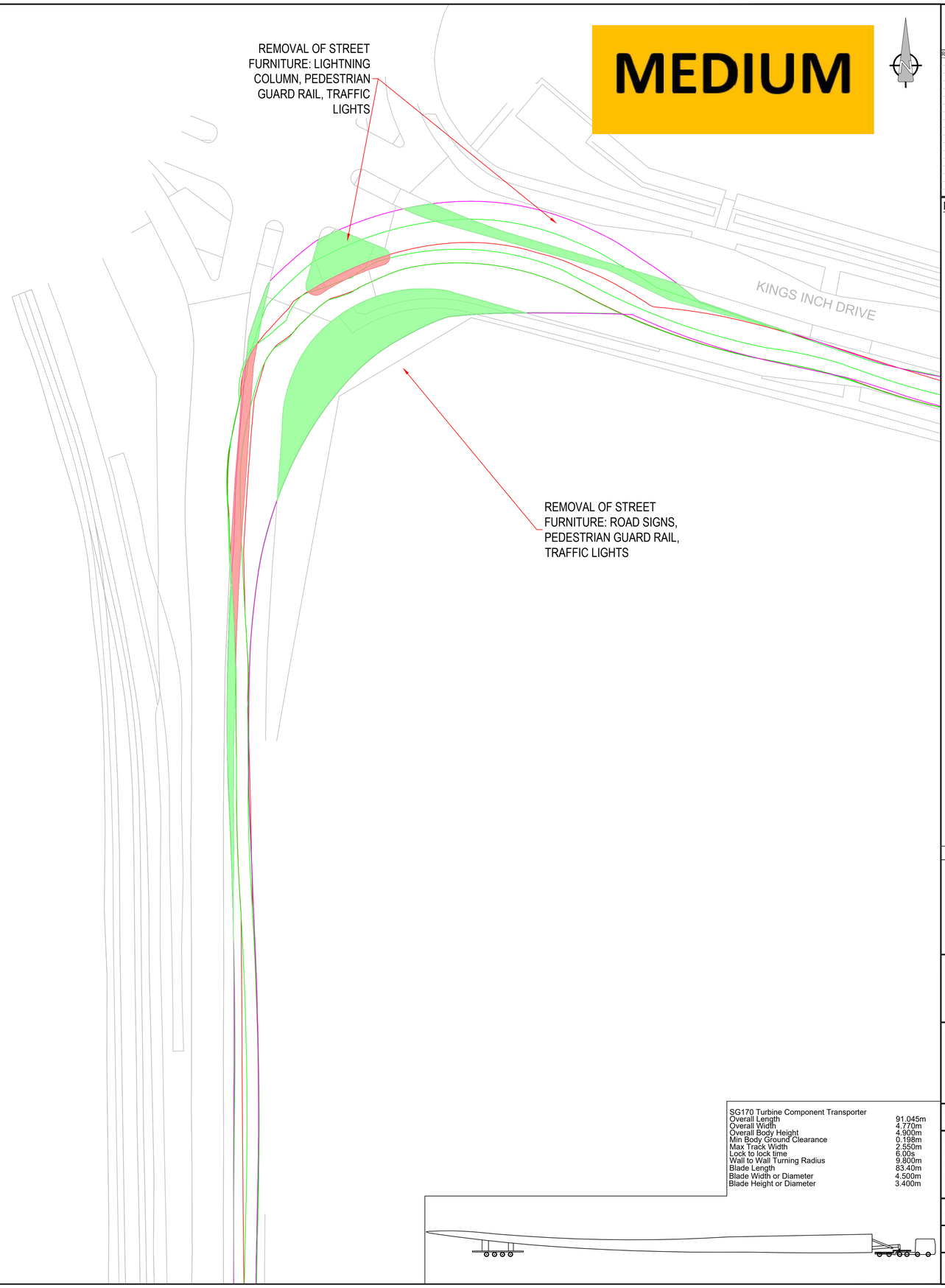
TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 3

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0003			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm





MEDIUM

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

NOTES:

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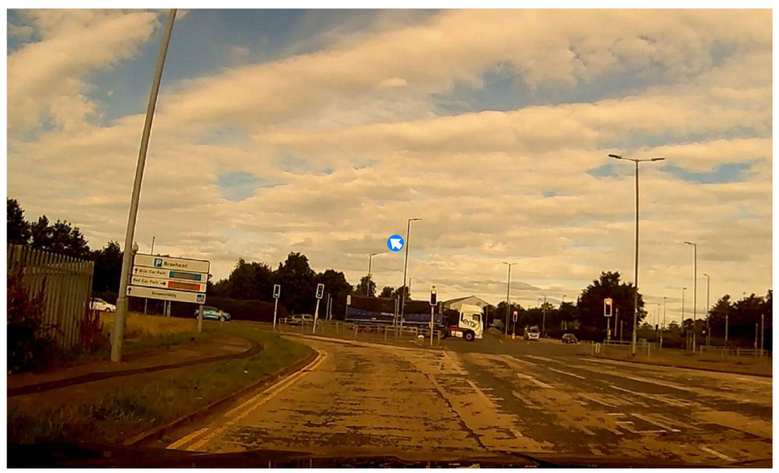
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.



SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m

0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

MEINHARDT

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PROJECT
BLAIR HILL WIND FARM

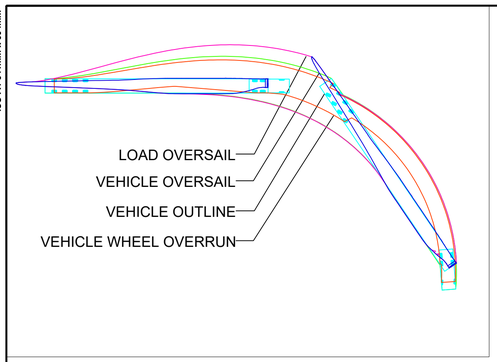
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 4

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0004			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

NOTES:

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5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

REMOVAL OF STREET FURNITURE: GUARD RAIL

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m

0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

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1st Floor, 9 George Square, Glasgow, G2 1DY
Telephone: +44 (0) 141 378 4235
www.meinhardt.co.uk

PROJECT
BLAIR HILL WIND FARM

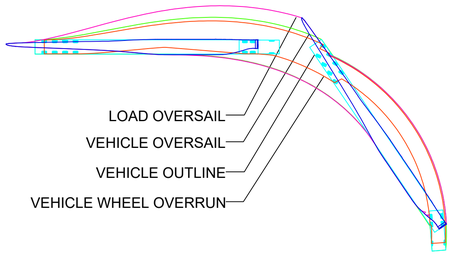
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 5

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0005			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM

REMOVAL OF STREET FURNITURE: ROAD SIGNS. VEGETATION TO BE TRIMMED BACK

REMOVAL OF STREET FURNITURE: ROAD SIGNS, LIGHTING COLUMN

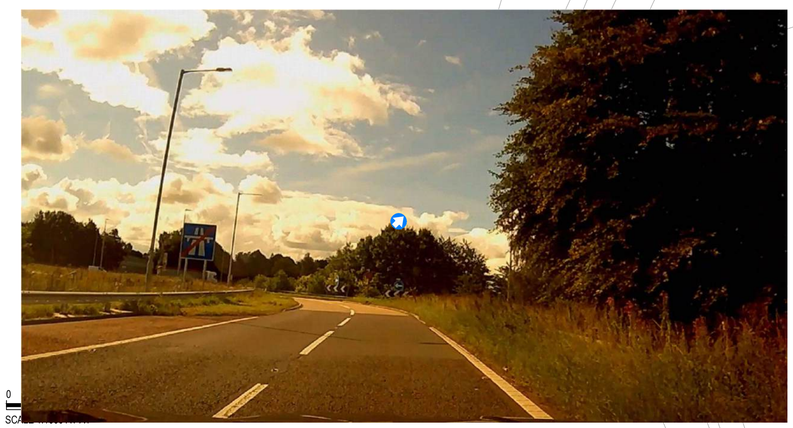
TURBINE TO OVERSAIL SAFETY BARRIER. REMOVAL OF ILLUMINATED CHEVRON. RECOMMENDED TO HAVE VEGETATION TRIMMED

TURBINE TO OVERSAIL SAFETY BARRIER. REMOVAL OF ILLUMINATED CHEVRON. RECOMMENDED TO HAVE VEGETATION TRIMMED

REMOVAL OF STREET FURNITURE: ROAD SIGN

REMOVAL OF STREET FURNITURE: ROAD SIGNS, LIGHTING COLUMN

REMOVAL OF STREET FURNITURE: LIGHTING COLUMN. TURBINE TO OVERSAIL SAFETY BARRIER



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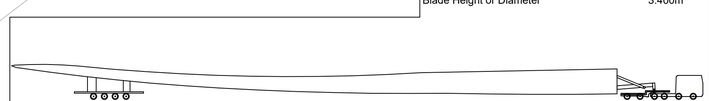
SCALE 1:2000 AT A3

SG170 Turbine Component Transporter

Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m



FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

NOTES:

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3. INDICATIVE VEHICLE MODELS ARE DESIGNED USING TECHNICAL SPECIFICATIONS. RESULTS SHOULD BE REVIEWED BY HAULIER, INCLUDING A DRY RUN ON SITE, PRIOR TO COMMENCEMENT ON SITE.
4. VERTICAL CLEARANCE HAS BEEN INFORMED VIA DESKTOP STUDY AND SITE VISIT ONLY. CONFIRMATION REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

MEINHARDT
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Telephone: +44 (0) 141 378 4235
www.meinhardt.co.uk

PROJECT
BLAIR HILL WIND FARM

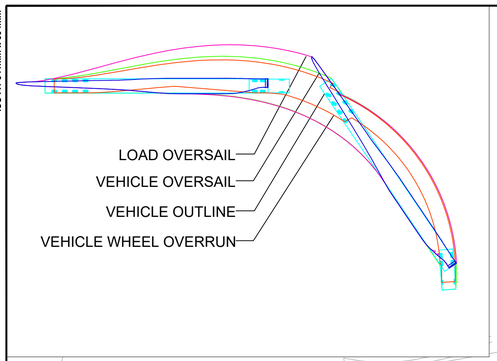
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 6

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:1000
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0006			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



LOW

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

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5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

0 10 20 30 40 50 75 100 m

SCALE 1:1000 AT A1
SCALE 1:2000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m

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Telephone: +44 (0) 141 378 4235
www.meinhardt.co.uk

PROJECT
BLAIR HILL WIND FARM

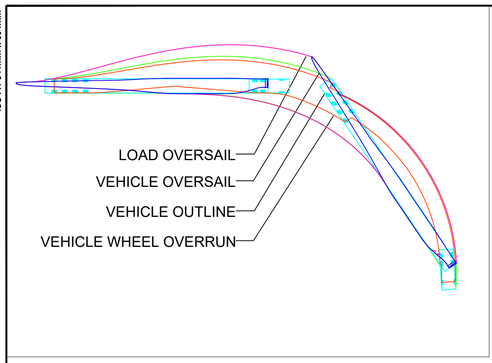
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 7

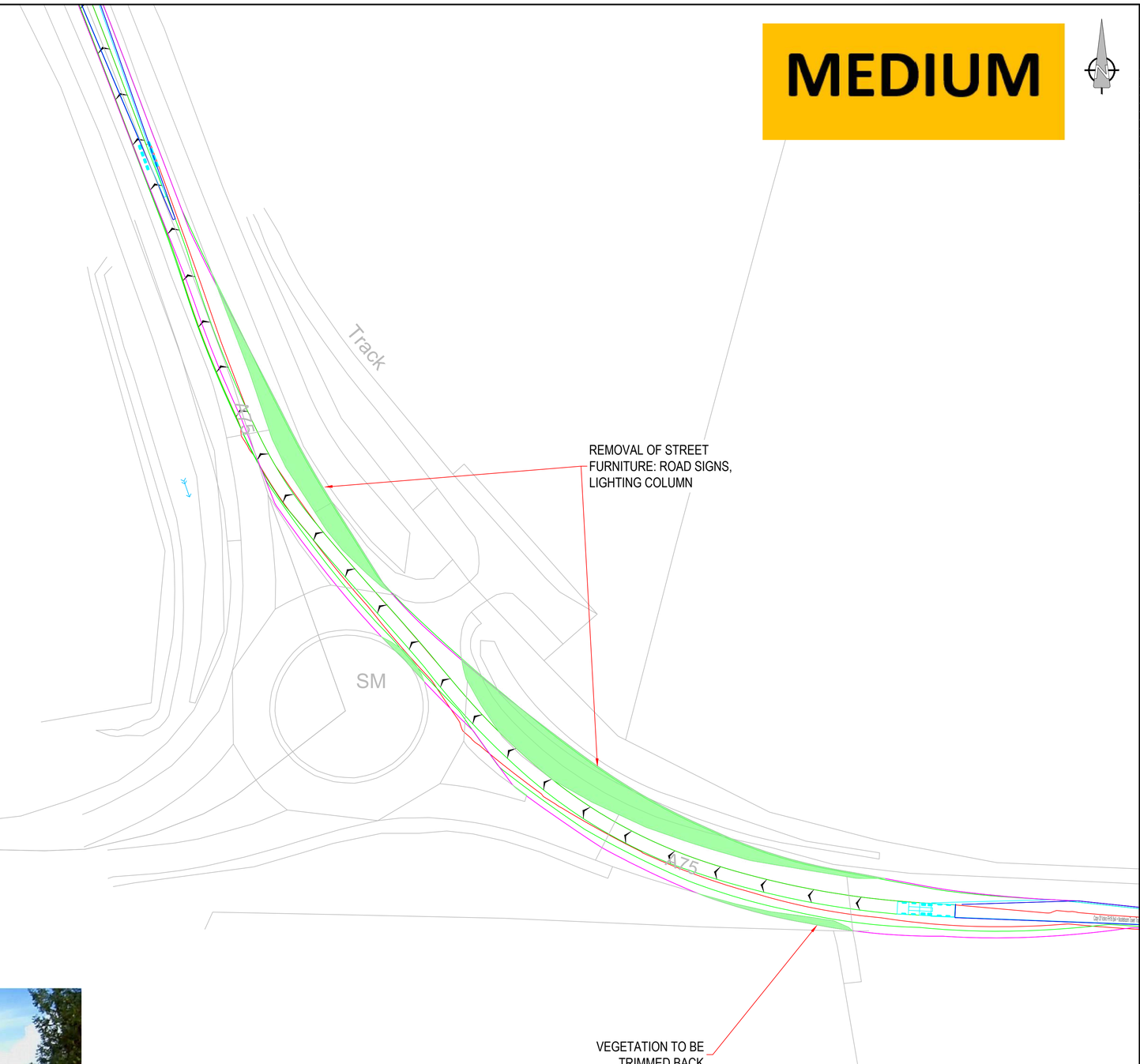
DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:1000
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0007			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK-LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM



0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m

FOR INFORMATION

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5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

MEINHARDT
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Telephone: +44 (0) 141 378 4235
www.meinhardt.co.uk

PROJECT
BLAIR HILL WIND FARM

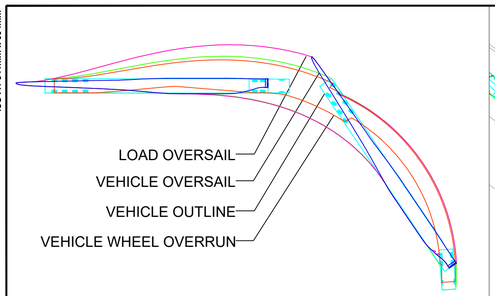
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 8

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0008			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240622.DWG

ISO A1 841mm x 594mm



MEDIUM

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

EARTHWORK MEASURES MAY BE REQUIRED TO PROVIDE GROUND CLEARANCE ON ROUNDABOUT

REMOVAL OF STREET FURNITURE: ROAD SIGNS, LIGHTING COLUMN

REMOVAL OF ILLUMINATED CHEVRON.
EXISTING TREES TO BE REMOVED AND VEGETATION TO BE TRIMMED.

REMOVAL OF STREET FURNITURE: ROAD SIGNS, LIGHTING COLUMN

REMOVAL OF STREET FURNITURE: ROAD SIGNS, LIGHTING COLUMN

A75

Co Const Bdy

Ward Bdy

A75

NOTES:

1. DO NOT SCALE, ALL MEASUREMENTS AND COORDINATES TO BE CHECKED ON SITE.
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3. INDICATIVE VEHICLE MODELS ARE DESIGNED USING TECHNICAL SPECIFICATIONS. RESULTS SHOULD BE REVIEWED BY HAULIER, INCLUDING A DRY RUN ON SITE, PRIOR TO COMMENCEMENT ON SITE.
4. VERTICAL CLEARANCE HAS BEEN INFORMED VIA DESKTOP STUDY AND SITE VISIT ONLY. CONFIRMATION REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

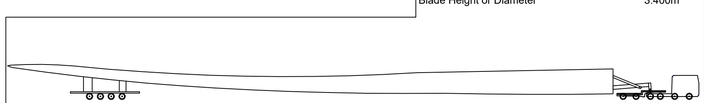
LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m



MEINHARDT
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www.meinhardt.co.uk

PROJECT
BLAIR HILL WIND FARM

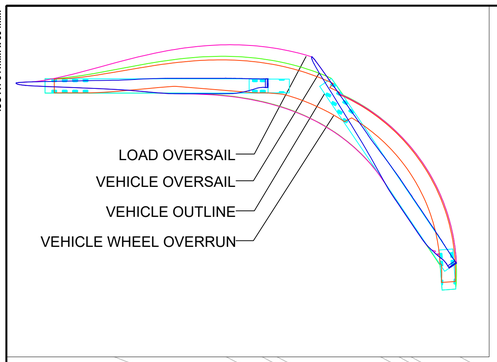
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 9

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0009			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

NOTES:

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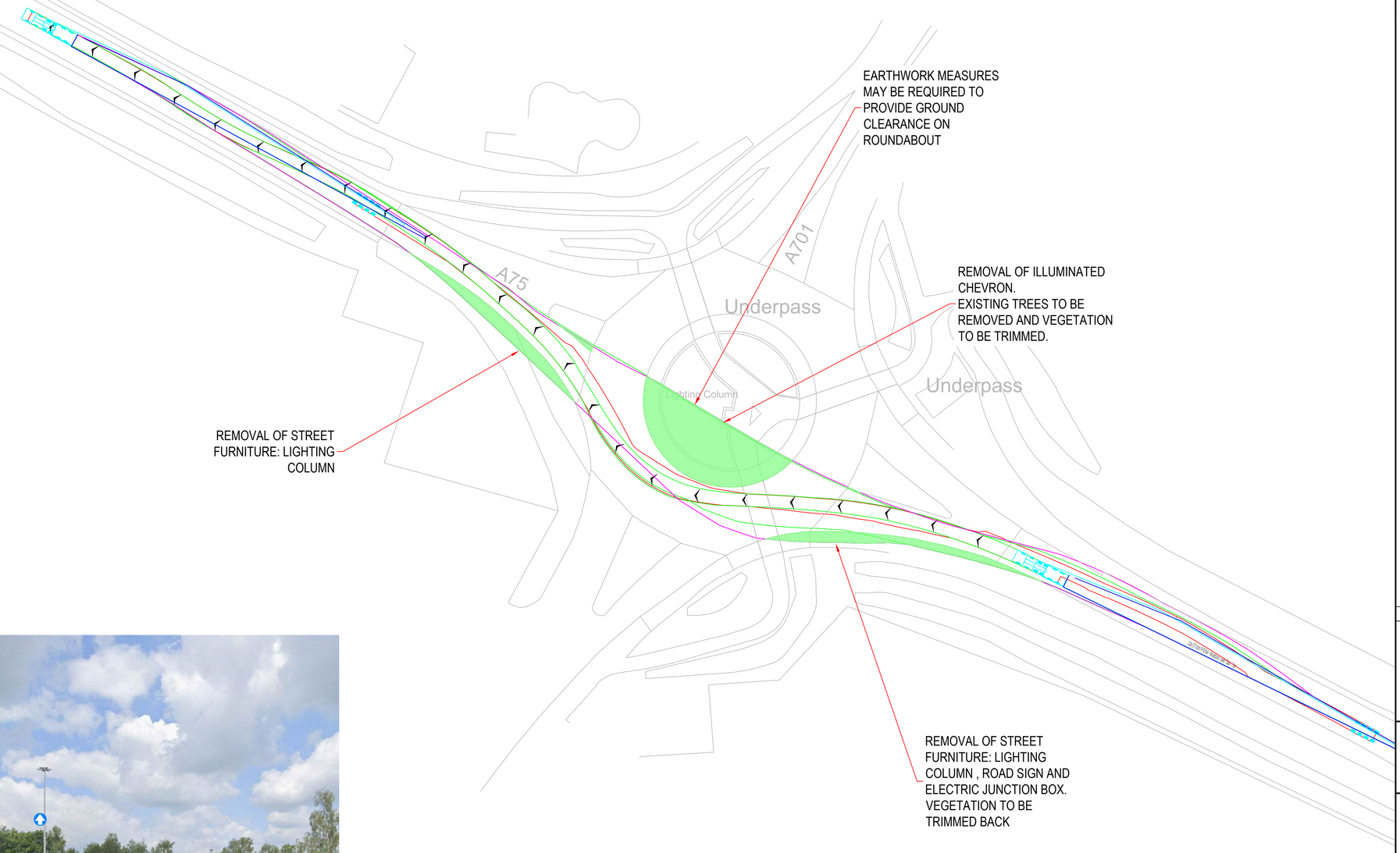
4. VERTICAL CLEARANCE HAS BEEN INFORMED VIA DESKTOP STUDY AND SITE VISIT ONLY. CONFIRMATION REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.



EARTHWORK MEASURES MAY BE REQUIRED TO PROVIDE GROUND CLEARANCE ON ROUNDABOUT

REMOVAL OF ILLUMINATED CHEVRON. EXISTING TREES TO BE REMOVED AND VEGETATION TO BE TRIMMED.

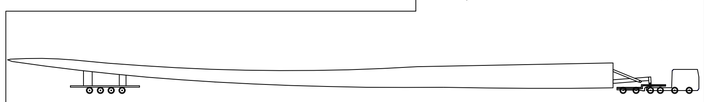
REMOVAL OF STREET FURNITURE: LIGHTING COLUMN

REMOVAL OF STREET FURNITURE: LIGHTING COLUMN , ROAD SIGN AND ELECTRIC JUNCTION BOX. VEGETATION TO BE TRIMMED BACK

0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m



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PROJECT
BLAIR HILL WIND FARM

CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 10

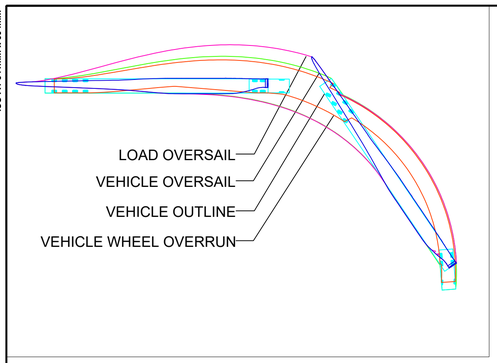
DISCIPLINE	SCALE
MOBILITY & INFRASTRUCTURE	1:500

DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR

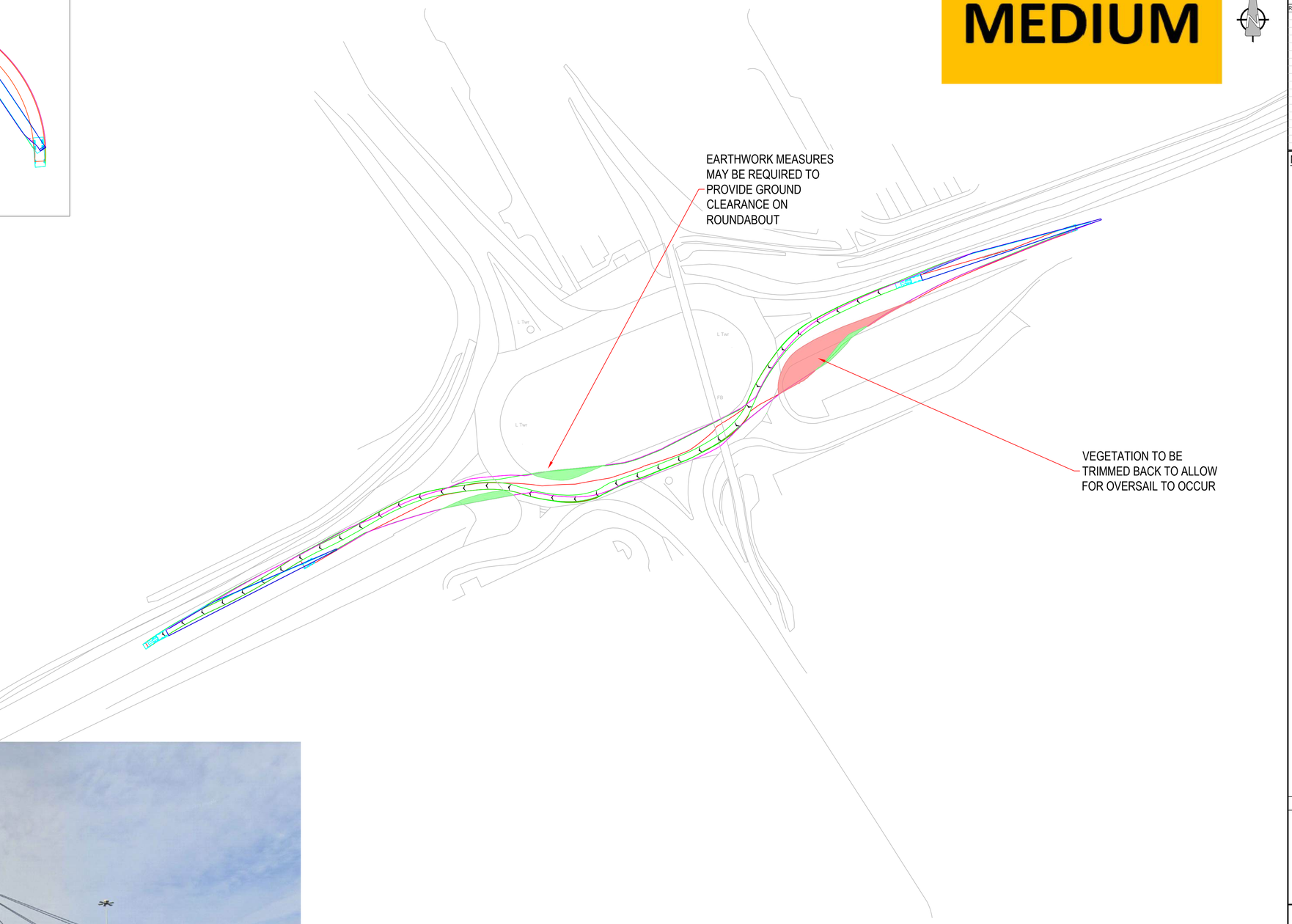
DRAWING No: 4130-MHT-MI-XX-DR-0010
ISSUE: C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHTT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



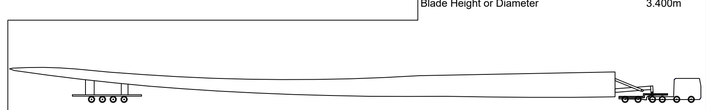
MEDIUM



0 10 20 30 40 50 75 100 m

SCALE 1:1000 AT A1
SCALE 1:2000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m



FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

NOTES:

1. DO NOT SCALE, ALL MEASUREMENTS AND COORDINATES TO BE CHECKED ON SITE.
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4. VERTICAL CLEARANCE HAS BEEN INFORMED VIA DESKTOP STUDY AND SITE VISIT ONLY. CONFIRMATION REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

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PROJECT
BLAIR HILL WIND FARM

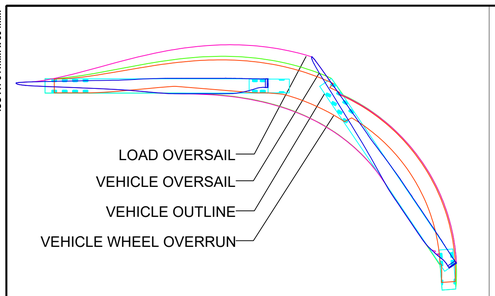
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 11

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:1000
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0011			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM

EARTHWORK MEASURES MAY BE REQUIRED TO PROVIDE GROUND CLEARANCE ON ROUNDABOUT

REMOVAL OF STREET FURNITURE: LIGHTING COLUMNS

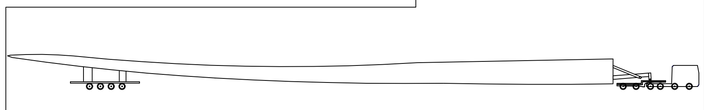
REMOVAL OF CHEVRON SIGN. EXISTING PREPARED AREA TO BE UTILISED FOR OVERSAIL SUBJECT TO INSPECTION DURING DRY RUN

REMOVAL OF STREET FURNITURE: LIGHTING COLUMN , ROAD SIGNS

0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	6.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m



FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

NOTES:

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5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

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PROJECT
BLAIR HILL WIND FARM

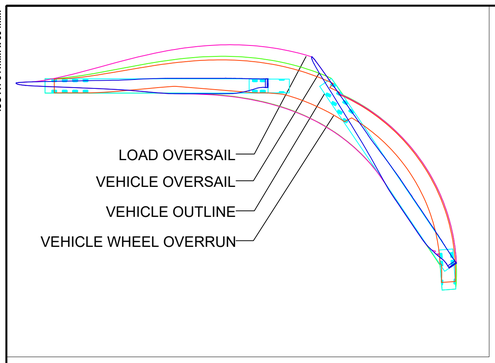
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 12

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0012			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

REMOVAL OF STREET FURNITURE: LIGHTING COLUMNS, ROAD SIGN

Cycle Way

EARTHWORK MEASURES MAY BE REQUIRED TO PROVIDE GROUND CLEARANCE ON ROUNDABOUT

NOTES:

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4. VERTICAL CLEARANCE HAS BEEN INFORMED VIA DESKTOP STUDY AND SITE VISIT ONLY. CONFIRMATION REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.

0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
Min Body Ground Clearance	0.198m
Max Track Width	2.550m
Lock to lock time	5.00s
Wall to Wall Turning Radius	9.800m
Blade Length	83.40m
Blade Width or Diameter	4.500m
Blade Height or Diameter	3.400m

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PROJECT
BLAIR HILL WIND FARM

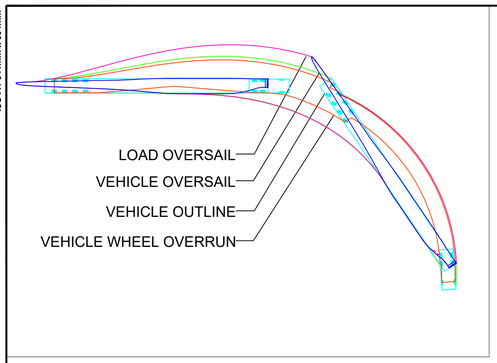
CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 13

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0013			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG

ISO A1 841mm x 594mm



MEDIUM

FOR INFORMATION

REV	DESCRIPTION	BY	DATE
A	FOR INFORMATION	RA	18.09.23
B	FOR INFORMATION	RA	17.11.23
C	FOR INFORMATION	RA	19.07.24

REMOVAL OF CHEVRON SIGN. EXISTING PREPARED AREA TO BE UTILISED FOR OVERSAIL SUBJECT TO INSPECTION DURING DRY RUN

REMOVAL OF STREET FURNITURE: STREET LIGHTING

Cycle Way

NOTES:

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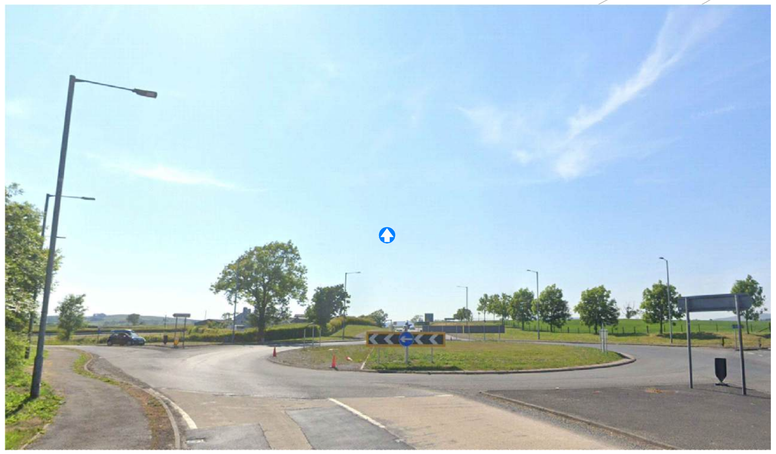
5. THIRD PARTY LAND TO BE CONFIRMED THROUGH LAND OWNERSHIP VIA TOPOGRAPHICAL SURVEY

LEGEND

- LOAD OVERSAIL WITHIN ASSUMED HIGHWAY BOUNDARY.
- VEHICLE OVERRUN WITHIN ASSUMED HIGHWAY BOUNDARY
- OVERSAIL / OVERRUN OF ASSUMED 3RD PARTY LAND.
- PHOTOGRAPH LOCATION AND DIRECTION.



0 5 10 15 20 25 30 40 50 m

SCALE 1:500 AT A1
SCALE 1:1000 AT A3

SG170 Turbine Component Transporter	
Overall Length	91.045m
Overall Width	4.770m
Overall Body Height	4.900m
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PROJECT
BLAIR HILL WIND FARM

CLIENT
RES

TITLE
ABNORMAL LOAD ASSESSMENT
SWEPT PATH ANALYSIS
SG170 BLADE COMPONENT- NO. 14

DISCIPLINE			SCALE
MOBILITY & INFRASTRUCTURE			1:500
DRAWN	DESIGNED	CHECKED	APPROVED
RA	RA	KMCK	CR
DRAWING No			ISSUE
4130-MHT-MI-XX-DR-0014			C

DATE: 06/06/2024
FILE LOCATION: C:\USERS\LEWIS.MURREN\MEINHARDT-UK LTD\UK PROJECTS - GENERAL\4130 - BLAIR HILL WIND FARM\1. MHT\TRANSPORT\DRAWINGS\DRAWINGS\4130-MHT-MI-XX-DR-0001-0031 240522.DWG