



Cush Wind Farm

Environmental Impact Assessment Report

Annex 3.5: Route Access Survey

Cush Wind Limited

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EXPERTS IN MOTION



Route Access Survey
369854 – Rev 3.0

Cush Wind Farm, County Laois, Ireland

Cush Wind Ltd

November 2022

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Report Details

Report for

Cormac McPhillips
Galetech Energy
Clondargan
Stradone
Co. Cavan
Ireland

Attendees of Survey

Steven Mangham

Time / Date of Survey: 23rd February 2022

General weather conditions: Mixed

Issued by

Steven Mangham

Approved by

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Document Revisions

No	Date	Details
2	27/05/2022	Site Entrance Location updated
3	14/11/2022	Updated to V172

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Collett & Sons Ltd established in Halifax over 45 years ago specialise in the multimodal logistics throughout the UK, Europe and Worldwide.

Our Company owns a modern fleet of over 60 vehicles and over 100 trailers, operating from 3 depots located in Halifax, Goole and Grangemouth.

The depots situated in Goole and Grangemouth offer strategically located sites suitable to provide central hubs for distribution throughout the UK. Each facility is complete with up to 110 tonnes lifting capacity in order to be able to handle all various abnormal load types. As logistical partners, the company is able to offer the complete transport solution from point of manufacture through to job site.

Collett & Sons Limited operate an in-house consultancy that deals with transport feasibility, route and site access surveys, Swept Path Analysis, Traffic Management Plans, Test Drives and Environment Statements.

In addition to consulting services, Collett & Sons Limited delivers the following services;

- Marine
- Port Operation
- Heavy Lift Storage
- Heavy Transport
- Project Management
- Freight Forwarding
- Heavy Lift
- General Haulage
- Warehousing
- Test Station (DVSA-authorized)
- SHEQ Training



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1. Executive Summary

- 1.1. This report comprises of a study of the road route as detailed here in for the road transport of Vestas V172 Blade Component to the proposed Cush Wind Farm, near Tullamore, County Offaly.
- 1.2. One route has been assessed from the Port of Galway to the proposed site entrance on the N62 at a approx. N 07871 16215.

Third party land

- 1.3. Third party land is required at three locations on the route:
 - M6 J5/N52 Roundabout due to oversail of the rear projection.
 - The junction of N52 / N62 to allow the loaded components to undertake a reverse manoeuvre in order to navigate this junction.

Road widening

- 1.4. Road widening within highways owned land is required at a number of locations:

-
- M6 / N52 Roundabout.
- M6 / N52 Roundabout
- N52 / R420 Roundabout.
- N52 / L2025 Roundabout.
- N52 / R420 Roundabout.
- N52 / R443 Roundabout.
- N52 / Tullamore Distillery roundabout.
- N52 / R421 Roundabout.
- N52 / R421 Roundabout.
- N52 / L6009 Roundabout
- N52 / N62 Junction.
- Site entrance.

Modifications to street furniture

- 1.5. Modifications to street furniture will be required along the route at a number of locations and has been detailed within the report body.

Vertical Alignment

- 1.6. No vertical alignment issues were identified by the assessment.

Structural Assessment

- 1.7. No structural assessment has been undertaken as part of this route assessment.

Other areas of note

- 1.8. A parking restriction is required on both bends in Kilcormac to allow the tractor unit to utilise the parking area.
- 1.9. A suitable site entrance is to be constructed to accommodate all of the loaded turbine components.
- 1.10. Trees to be removed at the N52/N62 Junction.

2. Introduction

- 2.1 Collett & Sons Ltd. were commissioned by Cush Wind Ltd to undertake an abnormal loads route access study to assess the transportation of Vestas V172 Wind Turbine components to the proposed Cush Wind Farm, near Tullamore, County Offaly.
- 2.2 The road routes as detailed herein are for the road transport of the wind turbine blade component identified in Appendix 1.
- 2.3 The purpose of this report is to detail access from the Ports of Galway.

3. Candidate Abnormal Loads

- 3.1. The turbine specification was agreed by Cush Wind Ltd.

4. Abnormal Indivisible Load Profiles

- 4.1. The abnormal load components are assessed based on weight, length, width and height and loaded to the most appropriate vehicle the weights and dimensions of these are detailed below. The loading diagrams are detailed in Appendix 1.

4.2.	369854-A
V172 Blade	
	Loaded vehicle dimensions
Overall vehicle Length	97.703m
Rigid Length	92.00m
Width	4.43m
Height	4.42m

5. Abnormal Load Movements in Ireland

In the Republic of Ireland, any haulier who wishes to move a load or vehicle that exceeds the limits identified within the Road Traffic (Construction Equipment & Use of Vehicles) Regulations 2003, S.I.5 of 2003 must apply and obtain a permit for the movement.

There are two permit schemes in operation depending on the size, weight and location of the proposed movements.

5.1. Permit Scheme administered by An Garda Síochána

An Garda Síochána run a scheme for the movement of vehicles and loads that do not exceed 27.4 metres in length and 4.3 metres in width on designated roads.

Note: Vehicles and loads exceeding the 4.65 metre national height limit are not covered under this scheme and require a Local Authority Permit instead.

The designated road list is often updated with additional routes. An up to date list will always be available on RSA.ie and the [Garda website](#).

This scheme is outlined under the:

- [Road Traffic \(Specialised Vehicle Permits\) Regulations, 2009, S.I. No. 147 of 2009](#) and
- [Road Traffic \(Specialised Vehicle Permits\) \(Amendment\) Regulations, 2010](#)

This scheme is free of charge.

5.2. Permit Scheme administered by Local Authorities

Local Authorities operate a permit system for all roads, vehicles and loads not covered under the Garda permit scheme.

You must apply for a permit through the relevant local authorities if:

- All or part of your journey is not on the routes the Garda scheme covers.
- The weight of the vehicle or load exceeds the limits outlined in [SI 5 of 2003](#).
- The height of the vehicle or load exceeds the limits outlined in the Road Traffic (Construction and Use of Vehicles) Regulations, [SI 366 of 2008](#).
- The dimensions of the vehicle or load exceed those allowed under the Garda scheme: 27.4 metres in length or 4.3 metres in width.

Charges for this scheme apply and may vary from one local authority to another.

This scheme is outlined under the:

- [Road Traffic Specialised Permits for Particular Vehicles\) Regulations 2007, SI 283 of 2007](#).

5.3. Movements within Northern Ireland

In Northern Ireland, there are only two authorities that need to be informed if you propose to move a large load along Northern Irish roads:

- Roads Service Northern Ireland.
- Police Service of Northern Ireland.

5.4. Roads Service Northern Ireland

An Abnormal Loads (AL1) Application Form will need submitting to notify Roads Service of any impending movements. Depending on the type and size of the loads, the Roads Service will require a set amount of days' notice as detailed below, before any movements are undertaken.

Two clear working days' notice is required for all of the above.

- All loads in excess of 38 tonnes on four axles.
- All loads in excess of 40 tonnes on five axles.
- All loads in excess of 44 tonnes on six axles.
- All loads in excess of five metres in width.

Five clear working days' notice is required for:

- All loads in excess of 80 tonnes.
- All loads in excess of 6.1 metres in width.
- All loads in excess of 27.4 metres in length.

A special permit is required for:

- All loads in excess of 150 tonnes.
- All loads in excess of 6.1 metres in width.
- All loads in excess of 27.4 metres in length.

Although there is no legal requirement, it is advisable to notify Roads Service regarding all loads in excess of 4.3 metres in width, due to width restrictions on certain routes throughout the province.

5.5. Police Service of Northern Ireland (PSNI)

The PSNI require a minimum of two clear days' notice to arrange movement of an abnormal load. Depending on the type and size of the load, a police escort may or may not be required. Details of whether an escort will be required can be found below:

Information about loads

- If a load is between 2.9 metres and 3.66 metres in width and the overall length of the load does not exceed 27.4 metres this vehicle / load may move unescorted.
- If a load is between 3.66 metres and 4.3 metres in width and the overall length does not exceed 27.4 metres this vehicle / load may move, provided that the haulier supplies an escort vehicle.
- If a load exceeds 4.3 metres in width or 27.4 metres in length this vehicle / load may be provided with a police escort, subject to operational constraints and other factors.
- If a load has a gross vehicle weight of 80 tonnes or more the 2-day notice rule applies irrespective of dimensions.
- The notifiable lengths start at 18.65 metres under Construction and Use and 18.3 metres under Special Types Legislation. Where the width of any vehicle or load exceeds 3.50 metres or the notifiable lengths, as above, an attendant, in addition to the driver, is required.

5.6. Legislation

The relevant legislation for movements of Abnormal Loads can be found in the following:

- Motor Vehicles (Construction and use) Regulations (Northern Ireland) 1999
- Road Traffic and Vehicles Motor Vehicles (Authorisation of Special Types) Order (Northern Ireland) 1997

5.7. Peak traffic period warning

Permission will not be granted for movement of abnormal loads during peak traffic periods except in a case of emergency.

Identified peak traffic periods for the Greater Belfast and Londonderry areas are as follows:

Monday - Friday 0730 - 0930

Monday - Thursday 1530 - 1830

Friday 1500 – 1800

Times for movement in all other areas will be considered on request.

5.8. Night Time Moves

The movement of abnormal loads during the hours of darkness is not allowed, unless the police Abnormal Loads Office have granted permission.

6. Route Assessment Overview

6.1. This section of the report illustrates the route assessed for the delivery of the loaded Vestas V172 wind turbine from the Ports of Galway to the proposed Cush Windfarm.

6.2. For the purpose of this report, one route to the site was surveyed. The routes surveyed in this report have been identified by Collett.

6.3.

Route A

Start Location	Port of Galway	Distance of Route	Km	Miles
Via:	M6/N52/N62		302	188
<ul style="list-style-type: none"> • Exit Port of Galway onto Lough Atalia Road • Merge right onto R339 • Turn left onto unnamed road at Connelly Avenue junction • Turn right onto R336 • At N83 crossroads, turn right onto N6 • At roundabout, take 1st exit onto N6/M6 • Continue on M6 to junction 5 at junction with N52, • At roundabout, turn right onto N52 southbound, • Continue on N52 through 9 roundabouts to junction with N62, • At junction turn right onto N62, • Continue on N62 to site entrance at OSi Irish Grid ref: N 07875 16205. 				

6.4. Map Overview



KEY	
Route A	

6.5. Amendment Categorisation




For the purposes of this report, the route amendments have been identified into 3 categories.

Major Amendments – Third Party Land, Road Widening

Minor Amendments – Modifications to Street Furniture, Pruning, Contraflow Manoeuvre, Manual Steering

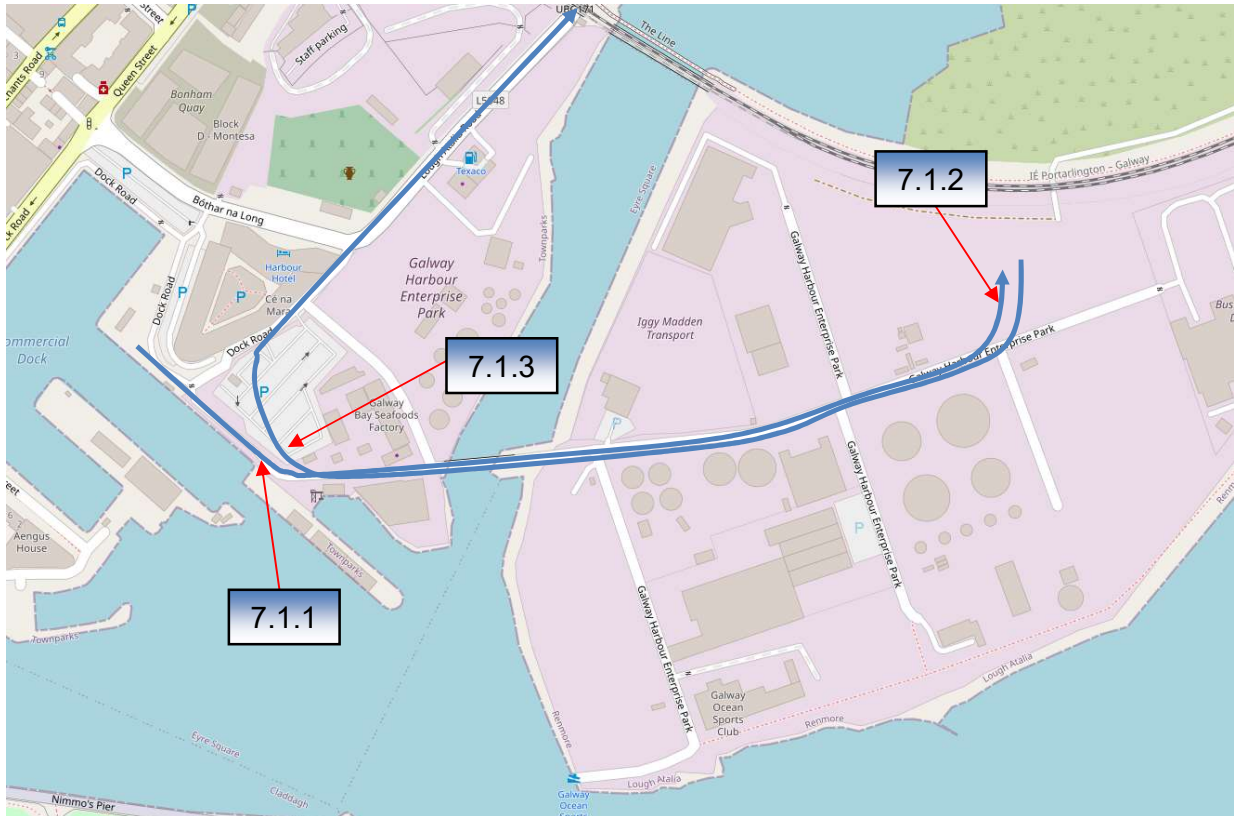
No Amendments - Location is suitable as assessed during this survey



The categories have been colour coded for each report item as per the below key.

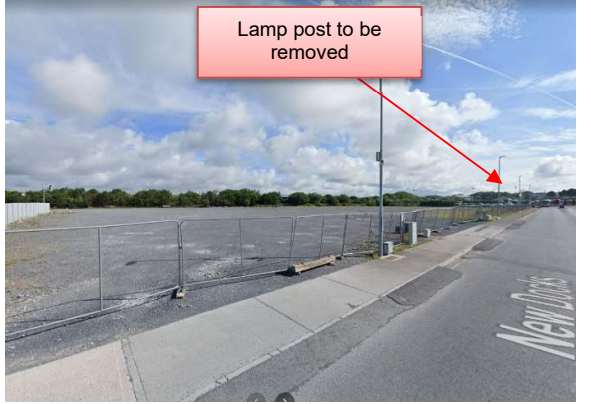


KEY					
	Major Amendments		Minor Amendments		No Amendments



7. Route Assessment

7.1. Map extract of survey locations

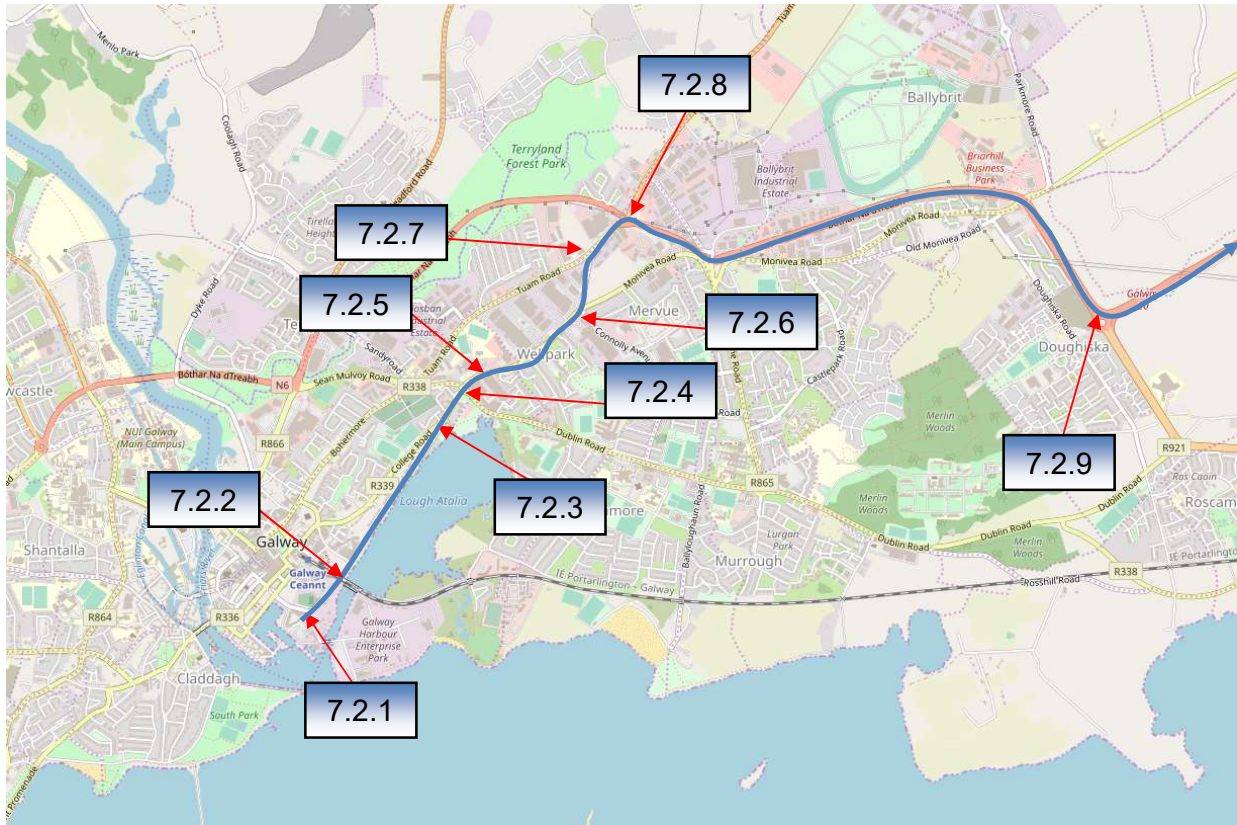






ITEM NUMBER	7.1.1			LOCATION	GALWAY PORT – EXIT FROM QUAYSIDE		
DIRECTION	Exit Quay side on Dock Street						
GRID REFERENCE	M 30165 24818						
MODIFICATION AND DESCRIPTION				PHOTOGRAPH OF LOCATION			
<p>Visual inspection indicates that gate and fence on the nearside when exit the quay to be removed.</p> <p>The Port of Galway are currently in the process of modifying the Port to allow 75m/80m Blades to exit.</p> <p>A section of the pipeline on the nearside has been moved underground as part of the upgrade works.</p>							
				Reverse View of Quay			
							
View along Dock Street							
Aerial View of Location							
FURTHER INVESTIGATION UNDERTAKEN?				NO	TYPE	N/A	
RELATED DOCUMENT NUMBERS				N/A			




ITEM NUMBER	7.1.2			LOCATION	ENTRY AND EXIT AT STORAGE AREA		
DIRECTION	N/A						
GRID REFERENCE	M 30736 24909						
MODIFICATION AND DESCRIPTION				PHOTOGRAPH OF LOCATION			
<p>Visual inspection indicates the lamp post on the nearside to be removed to allow access into the storage area.</p> <p>The Port of Galway are currently in the process of modifying the Port to allow 75m/80m Blades to exit.</p> <p>See the Swept Path Analysis for information on the area required for each blade type.</p>				 <p>Lamp post to be removed</p> <p>View of North Storage Area</p>			
				 <p>Access to be opened up</p> <p>Street furniture at junction w/ Lough Atalia Road</p>			
 <p>Aerial View of Location</p>							
FURTHER INVESTIGATION UNDERTAKEN?				NO	TYPE	N/A	
RELATED DOCUMENT NUMBERS				N/A			


ITEM NUMBER	7.1.3		LOCATION	EXIT FROM GALWAY PORT	
DIRECTION	Exit the Port onto Lough Atalia Road				
GRID REFERENCE	M 30169 24883				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Visual inspection indicates fences and lighting columns are to be removed in the car park to allow the loaded blades to navigate out of the port.</p> <p>The Port of Galway are currently in the process of modifying the Port to allow 75m/80m Blades to exit.</p> <p>The car park modified to adjust the levels to ensure the blades can navigate.</p>					
					
View of ongoing upgrade works			View of proposed exit location		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		


7.2. Map extract of survey locations

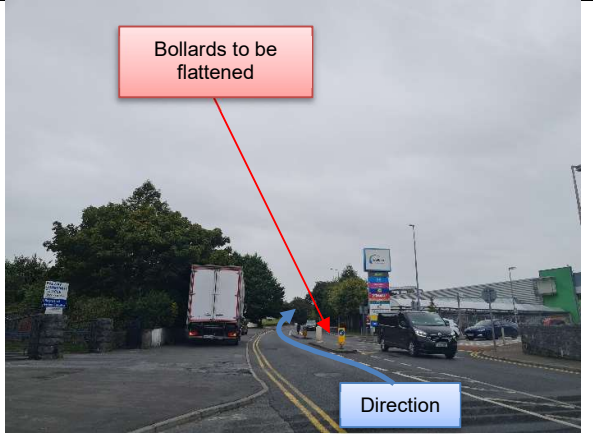




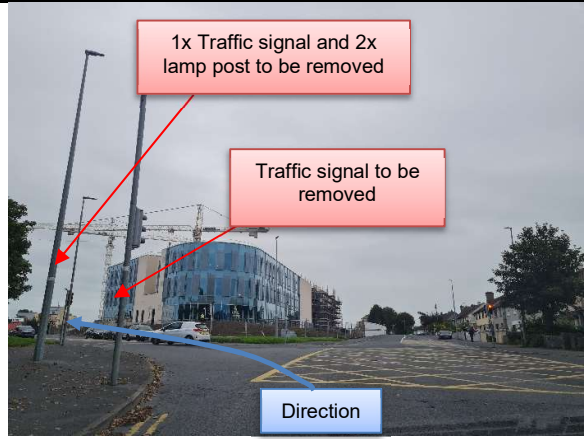
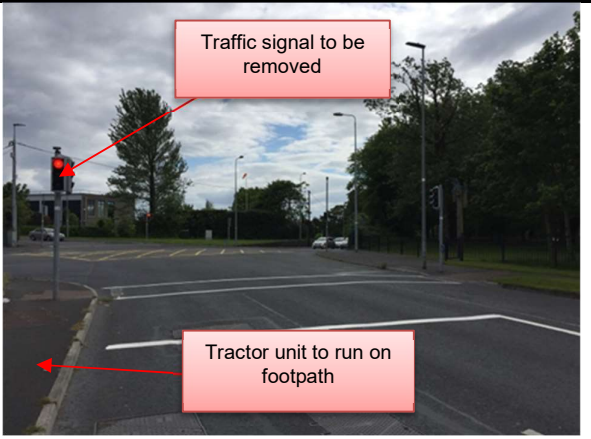

ITEM NUMBER	7.2.1		LOCATION	JUNCTION WITH LOUGH ATALIA ROAD	
DIRECTION	Exit the Port onto Lough Atalia Road				
GRID REFERENCE	M 30175 24820				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
Visual inspection indicates the road signs on the offside of the exit are to be removed to allow the blades to navigate onto Lough Atalia Road.					
			View towards junction		
					
View of junction			Street furniture at junction w/ Lough Atalia Road		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		




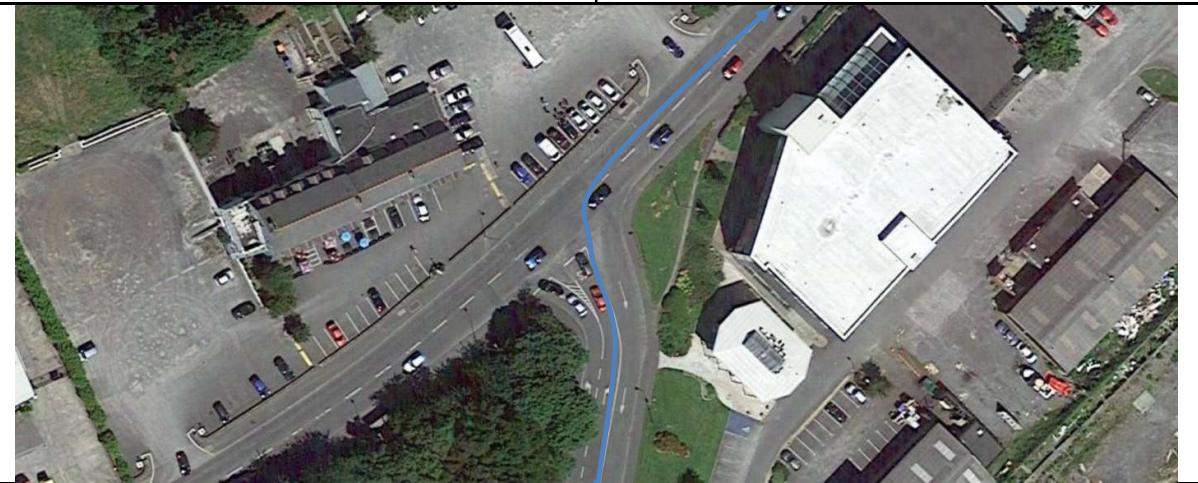
ITEM NUMBER	7.2.2		LOCATION	LOUGH ATALIA BRIDGE	
DIRECTION	Exit the Port onto Lough Atalia Road				
GRID REFERENCE	M 30175 24820				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Vertical analysis indicates that the loaded blades will navigate under Lough Atalia Bridge.</p> <p>The loaded blades will enter the bridge buffer zone but will not impact the bridge itself.</p>					
			<p>Access to dockside</p> 		
			<p>Aerial View of Location</p>		
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	VERTICAL ANALYSIS	
RELATED DOCUMENT NUMBERS		N/A			


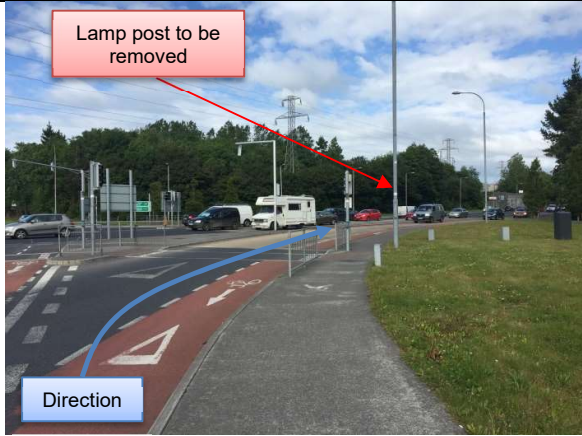

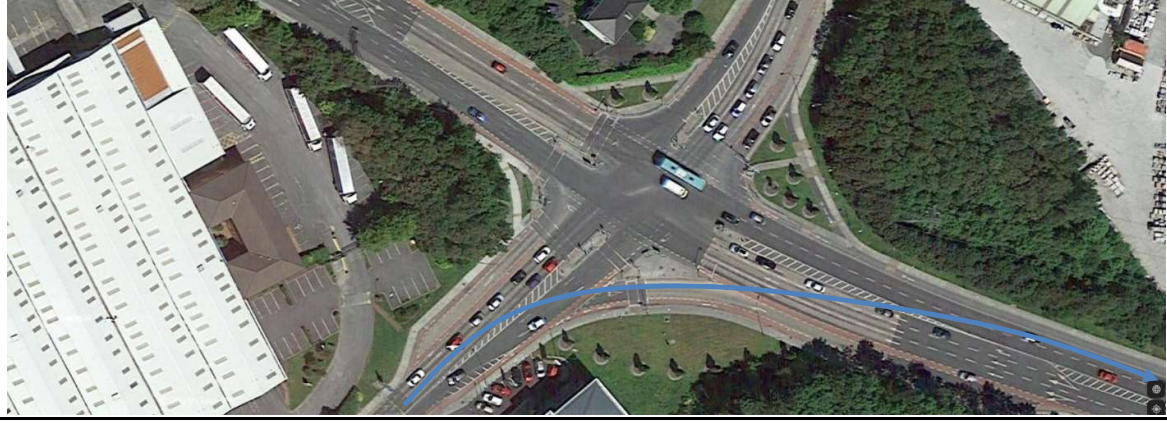
ITEM NUMBER	7.2.3		LOCATION	LOUGH ATALIA ROAD/R339 JUNCTION	
DIRECTION	Turn right at this junction				
GRID REFERENCE	M 31010 26058				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Visual inspection indicates that a contraflow manoeuvre will be required at this junction.</p> <p>Inspection indicates that road sign, bollard and traffic signal on splitter island to be removed.</p> <p>Traffic signal on the offside to be removed.</p>					
			Vehicles direction towards junction		
					
Aerial View of Location			Vehicle approaching junction		
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		

ITEM NUMBER	7.2.4		LOCATION	R339/R338 JUNCTION	
DIRECTION	Continue straight at this junction				
GRID REFERENCE	M 31119 26239				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
Visual inspection indicates that a contraflow manoeuvre will be required at this junction.					
			Vehicle approaching junction		
					
Aerial View of Location			Vehicle approaching junction		
					
View of vehicle leaving junction					
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		

ITEM NUMBER	7.2.5		LOCATION	SPLITTER ISLANDS ON R339	
DIRECTION	Turn left at this junction				
GRID REFERENCE	M 31199 26301				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Visual inspection indicates the flexi bollards on the splitter islands are to be flattened for deliveries to allow for oversail of the splitter islands.</p>					
			View of splitter islands		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		

ITEM NUMBER	7.2.6			LOCATION	R339/CONNOLLY AVENUE JUNCTION		
DIRECTION	Turn left at this junction						
GRID REFERENCE	M 31786 26676						
MODIFICATION AND DESCRIPTION				PHOTOGRAPH OF LOCATION			
<p>Visual inspection indicates that 2x traffic signals and 2x lamp posts on the nearside to be removed plus the electric pole on the offside of the R339.</p> <p>Traffic signal on the offside of Connolly Avenue to be removed.</p> <p>The tractor unit will also be required to run on the offside footpath.</p> <p>Manual steering required to assist navigation.</p>				 <p>Electric pole to be removed</p> <p>View of the approach to junction</p>			
 <p>1x Traffic signal and 2x lamp post to be removed</p> <p>Traffic signal to be removed</p> <p>Direction</p> <p>View of the junction</p>				 <p>Traffic signal to be removed</p> <p>Tractor unit to run on footpath</p> <p>Reverse View of the junction</p>			
 <p>Aerial View of Location</p>							
FURTHER INVESTIGATION UNDERTAKEN?				NO	TYPE	N/A	
RELATED DOCUMENT NUMBERS				N/A			

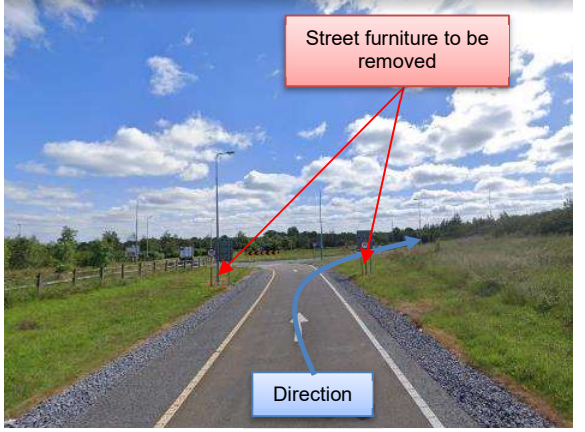


ITEM NUMBER	7.2.7		LOCATION	CONNOLLY AVENUE/R336 JUNCTION	
DIRECTION	Turn right at this junction				
GRID REFERENCE	M 31840 26985				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept path analysis indicates that the loaded components will navigate this junction utilising manual steering.</p> <p>Road widening will be required on the offside of the junction for all blades.</p> <p>the tractor unit will require to run on the nearside kerb on the R336</p> <p>Lamp post on the offside will require removal.</p>					
			View approaching junction		
					
View of the junction			Reverse view of the junction		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		

ITEM NUMBER	7.2.8		LOCATION	R336 / N6 JUNCTION	
DIRECTION	Turn left at this junction				
GRID REFERENCE	M 32049 27159				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Visual inspection indicates that the loaded blades are to contraflow this junction.</p> <p>Railings and traffic light on the offside to be removed..</p> <p>Lamp post on the offside of the slip road and road sign/lamp post on the nearside of the R336 to be removed.</p> <p>Manual steering required to assist navigation.</p>			 <p>View approaching junction</p>		
 <p>Direction</p> <p>Lamp post to be removed</p>			 <p>Traffic light and railings to be removed for all blades</p>		
Vehicle direction			View of street furniture on widened area		
 <p>Aerial View of Location</p>					
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		

ITEM NUMBER	7.2.9		LOCATION	N6 COOLAGH ROUNDABOUT	
DIRECTION	Take 1st Exit at the roundabout				
GRID REFERENCE	M 34736 26588				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Visual inspection indicates lamp posts and road sign on the nearside of roundabout entry to be removed due to the oversail of the trailer body.</p> <p>Road signs the splitter island to be removed for all blades.</p>					
			View approaching roundabout		
					
View of the roundabout			View of exiting roundabout		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		

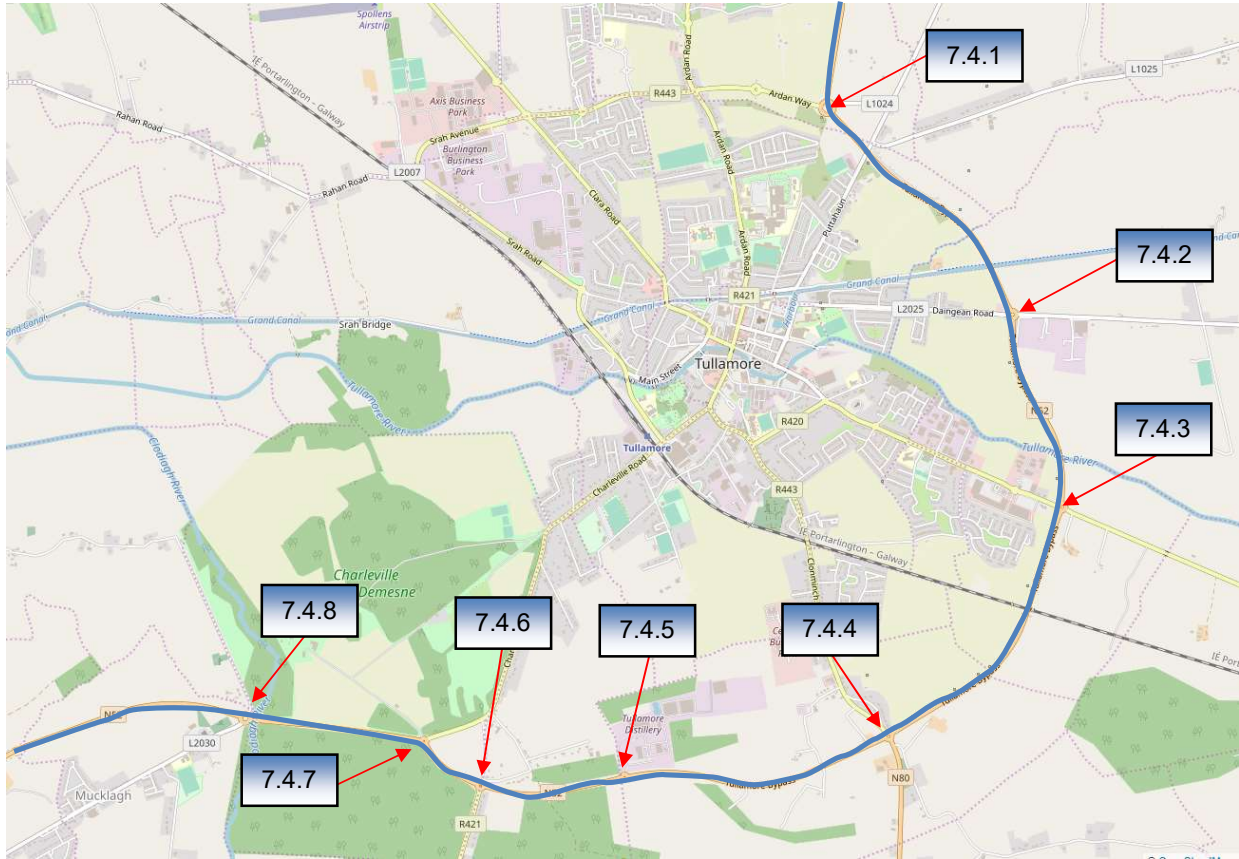
7.3. Map extract of survey locations











ITEM NUMBER	7.3.1		LOCATION	M6 / N52 ROUNDABOUT
DIRECTION	Take 3 rd exit at roundabout			
GRID REFERENCE	N 33641 34410			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
<p>Swept path analysis indicates that road widening and modifications to street furniture required.</p> <p>Widening and removal of road signs and lamp posts will be required on both sides of the exit slip road.</p> <p>Road signs on the offside of slip road to be removed.</p> <p>Manual steering required to assist navigation.</p>		 <p>Street furniture to be removed</p> <p>Direction</p>		
		View of approach to roundabout		
		 <p>Street furniture to be removed</p> <p>Road widening required</p>		
		View of the offside of the roundabout		
				
Aerial View of Location				
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis	
RELATED DOCUMENT NUMBERS	369854-90			





ITEM NUMBER	7.3.2		LOCATION	N52/M6 ROUNDABOUT	
DIRECTION	Take 2 nd exit at roundabout				
GRID REFERENCE	N 33674 34228				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Visual inspection indicates that road widening and modifications to street furniture required.</p> <p>Widening and removal of road sign required on central island of roundabout.</p> <p>Road signs on the offside of slip road to be removed.</p> <p>Manual steering required to assist navigation.</p>					
			View of the roundabout		
					
			View of the central island		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-100B1.1		





7.4. Map extract of survey locations




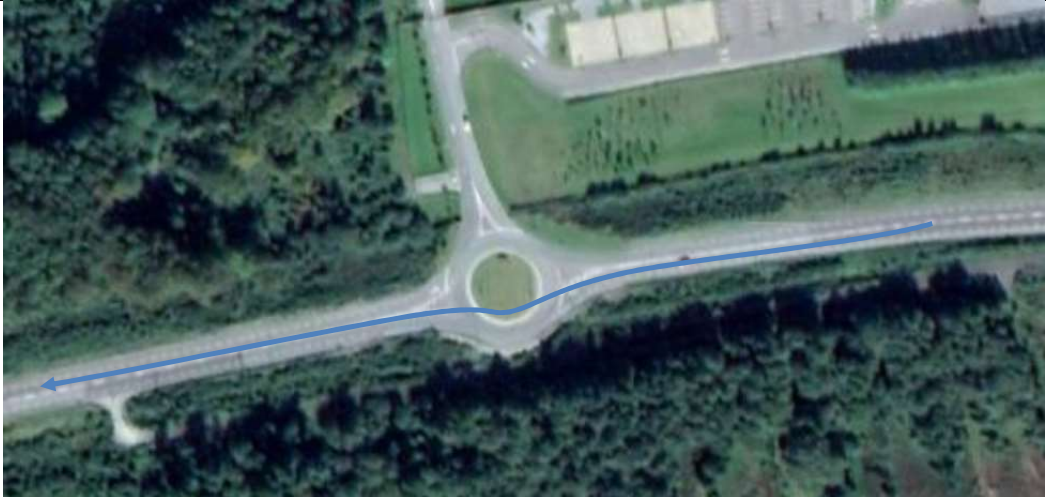




ITEM NUMBER	7.4.1		LOCATION	N52 / R443 ARDAN ROUNDABOUT	
DIRECTION	Take the 2 nd exit at the roundabout				
GRID REFERENCE	N 34477 26537				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
Swept Path Analysis indicates that road widening will be required on the central island.					
			View of roundabout entry		
					
View on roundabout			View of roundabout exit		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-110		





ITEM NUMBER	7.4.2		LOCATION	N52 / L2025 ROUNDABOUT	
DIRECTION	Take the 2 nd exit at the roundabout				
GRID REFERENCE	N 35589 25291				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that road widening will be required on the entry splitter island and the central island of the roundabout.</p> <p>Loaded blade will require to contraflow this roundabout in order to reduce the amount of modifications required.</p> <p>Two road signs on the central island of the roundabout to be removed.</p>			 <p>Direction</p>		
 <p>Road signs to be removed</p> <p>Road widening required</p>			 <p>Road sign to be removed</p>		
View on roundabout			Reverse view of roundabout exit		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-120		





ITEM NUMBER	7.4.3		LOCATION	N52 / R420 ROUNDABOUT	
DIRECTION	Take the 2 nd exit at the roundabout				
GRID REFERENCE	N 35887 24132				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that road widening will be required on the central island.</p> <p>Loaded blade will require to contraflow this roundabout in order to reduce the amount of modifications required.</p> <p>Two road signs on central island to be removed.</p>					
			View of roundabout entry		
					
View on roundabout			Reverse view of roundabout exit		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-130		

ITEM NUMBER	7.4.4		LOCATION	N52 / R443 ROUNDABOUT	
DIRECTION	Take the 2 nd exit at the roundabout				
GRID REFERENCE	N 34865 22745				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that road widening will be required on the central island.</p> <p>Road signs on central island and on exit splitter island to be removed.</p>			 <p>Road signs to be removed</p> <p>Direction</p>		
			View of roundabout entry		
 <p>Road widening required</p>			 <p>Road sign to be removed</p>		
View on roundabout			Reverse view on roundabout exit		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-140		

ITEM NUMBER	7.4.5		LOCATION	N52 / TULLAMORE DISTILLERY ROUNDABOUT	
DIRECTION	Take the 2 nd exit at the roundabout				
GRID REFERENCE	N 33273 22502				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that road widening will be required on the central island.</p> <p>One road sign on central island to be removed.</p>			 <p>Road signs to be removed</p>		
			View of roundabout entry		
 <p>Road widening required</p>					
View on roundabout			View on roundabout exit		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-150		

ITEM NUMBER	7.4.6		LOCATION	N52 / R421 ROUNDABOUT	
DIRECTION	Take the 1 st exit at the roundabout				
GRID REFERENCE	N 32386 22433				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that road widening will be required on the central island.</p> <p>Loaded blade will require to contraflow this roundabout in order to reduce the amount of modifications required.</p> <p>Road sign on central island of the roundabout to be removed.</p>			 <p>Road widening required</p> <p>Direction</p>		
			View of roundabout entry		
 <p>Road sign to be removed</p>					
Reverse view on roundabout			Reverse view on roundabout exit		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-160		




ITEM NUMBER	7.4.7		LOCATION	N52 / R421 ROUNDABOUT	
DIRECTION	Take the 1 st exit at the roundabout				
GRID REFERENCE	N 32039 22690				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that road widening will be required on the central island.</p> <p>Road sign on the nearside to be removed.</p> <p>Manual steering required to assist navigation.</p>					
			View of roundabout entry		
					
View on roundabout			View on roundabout exit		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-170		

ITEM NUMBER	7.4.8		LOCATION	N52 / L6009 ROUNDABOUT	
DIRECTION	Take the 2 nd exit at the roundabout				
GRID REFERENCE	N 30975 22828				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that road widening will be required on the central island.</p> <p>Loaded blade will require to contraflow this roundabout in order to reduce the amount of modifications required.</p> <p>Road sign on central island to be removed.</p>			 <p>Road widening required</p> <p>Direction</p>		
 <p>View on roundabout</p>			 <p>Road signs to be removed</p> <p>Direction</p>		
 <p>Aerial View of Location</p>					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-180		

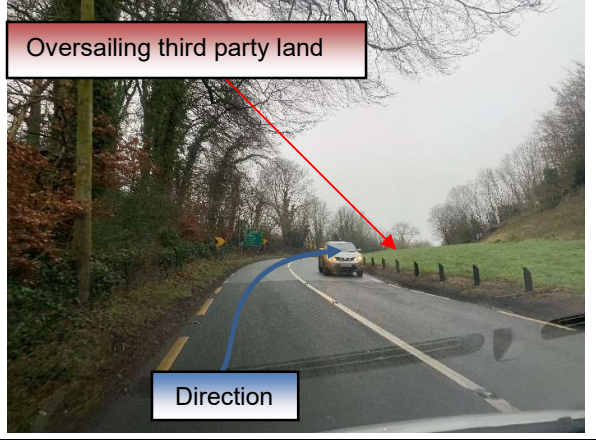


7.5. Map extract of survey locations



ITEM NUMBER	7.5.1			LOCATION	RIGHT HAND BEND IN KILCORMAC		
DIRECTION	Continue straight						
GRID REFERENCE	N 18463 14008						
MODIFICATION AND DESCRIPTION				PHOTOGRAPH OF LOCATION			
<p>Swept Path Analysis indicates that a parking restriction will be required on the offside to allow the tractor unit to utilise the area.</p> <p>The tractor unit is required to utilise the footpath as shown in the Swept path analysis.</p>							
Aerial View of Location							
FURTHER INVESTIGATION UNDERTAKEN?				YES	TYPE	Swept Path Analysis	
RELATED DOCUMENT NUMBERS				369854-190			

ITEM NUMBER	7.5.2		LOCATION	LEFT HAND BEND IN KILCORMAC	
DIRECTION	Continue straight				
GRID REFERENCE	N 18077 13975				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that a parking restriction will be required on the offside to allow the tractor unit to utilise the area.</p>			 <p style="text-align: center;">Direction</p> <p style="text-align: center;">View of prior to bend</p>		
			 <p style="text-align: center;">View on bend</p>		
			 <p style="text-align: center;">Aerial View of Location</p>		
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	Swept Path Analysis	
RELATED DOCUMENT NUMBERS		369854-200			

ITEM NUMBER	7.5.3		LOCATION	N52 / N62 JUNCTION	
DIRECTION	Turn right onto N62				
GRID REFERENCE	N 07398 07436				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Swept Path Analysis indicates that a reverse manoeuvre will be required at this junction.</p> <p>Third party land required on the nearside of the N52 to allow the loaded vehicle into the land in order to drive forward onto the N62.</p> <p>Trees, road signs and lamp post on nearside of N52 required to be removed.</p>			 <p>Direction</p>		
			View of junction		
			 <p>Third party land required</p> <p>Trees and fence to be removed</p> <p>Street furniture to be removed</p>		
View on junction			View on bend		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept path analysis
RELATED DOCUMENT NUMBERS			369854-210		

ITEM NUMBER	7.5.4		LOCATION	N62 RIGHT HAND BEND	
DIRECTION	Turn right onto N62				
GRID REFERENCE	N 07225 07932				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
Swept Path Analysis indicates the loaded blade will oversail third party land on the offside of the bend. The client has indicated that this land is in control of the County Council.					
			View prior to bend		
					
View on bend			View after bend		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS			369854-220		

ITEM NUMBER	7.5.5		LOCATION	SITE ENTRANCE	
DIRECTION	Turn left/right into site				
GRID REFERENCE	N 07617 10056				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
<p>Visual inspection indicates a suitable site entrance is to be constructed to the manufacturers specification to accommodate all loaded components.</p>					
			Reverse view of entrance		
					
Aerial View of Location					
FURTHER INVESTIGATION UNDERTAKEN?			NO	TYPE	N/A
RELATED DOCUMENT NUMBERS			N/A		

8. Important Notes

- 8.1. The recommendations in this report are made from a purely transport orientated view, and do not consider any political issues in terms of land ownership, or any other precincts raised that may otherwise be restrictive.
- 8.2. The information contained in this report is privileged and confidential and is for the exclusive use of the client nominated herein.
- 8.3. A Police escort or pilot car will be required in order to assist with traffic control for the entire route surveyed.
- 8.4. Permits will be required for the movement of all loads. These permits are at the discretion of the local authorities (L.A). Therefore, approval of these permits by the H.A is a major consideration before any movements can be undertaken.
- 8.5. It is recommended to have adequate warning signs implemented to warn other road users at critical points.
- 8.6. All hedges, shrubs, bushes, trees and overhanging branches along the nominated routes must be trimmed to allow a suitable minimum envelope.
- 8.7. All street furniture, signage etc. along the nominated route must be removed to allow a suitable minimum envelope on the road. Other specific street furniture has been nominated in this report to facilitate over-sailed and swept areas.
- 8.8. The turbine manufactures transport guidance notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this.
- 8.9. In areas where land take or road widening is required, the road construction must be formed to the minimum specification suitable for the transfer of axle loadings up to 16Te, the road construction must be formed to the minimum specification contained in the selected manufacturers transport and erection guidance notes.
- 8.10. Overhead utility cables have not been measured as part of this survey and correspondence with the utility companies regarding cable heights and possible remedial solutions should be undertaken prior to any delivery.
- 8.11. It should be noted that all assessments and inspections have been done so with the intention of producing information to highlight anticipated problems. This includes highlighting of potential land take requirements, possible street furniture implications, and highway alignment issues.
- 8.12. Land take is usually referred to when land is required from private land owners; road widening is usually referred to when land is required within highways boundaries. However, the details of the nominated land take and road widening contained in this report are highlighting the expected areas of concern, and can only be confirmed by swept path analysis. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- 8.13. All inspections and assessments are made for the road movement of loaded trailer equipment carrying specific storage tank components. These dimensions are based on the turning circles and specification of Collett & Sons trailer equipment.
- 8.14. All route inspections and assessments, and subsequent conclusions and recommendations are deemed accurate by Collett & Sons Limited at the date that this report is created. We cannot be held responsible for the development of future road schemes or alterations to the routes surveyed that may leave this report inaccurate.
- 8.15. This report is based solely on a preliminary visual inspection. Nothing in this report shall be construed in any way as committing Collett & Sons Limited to being able to deliver to site using this route before further structural analysis has been undertaken, and any accommodation/remedial works undertaken which are to Collett & Sons satisfaction.

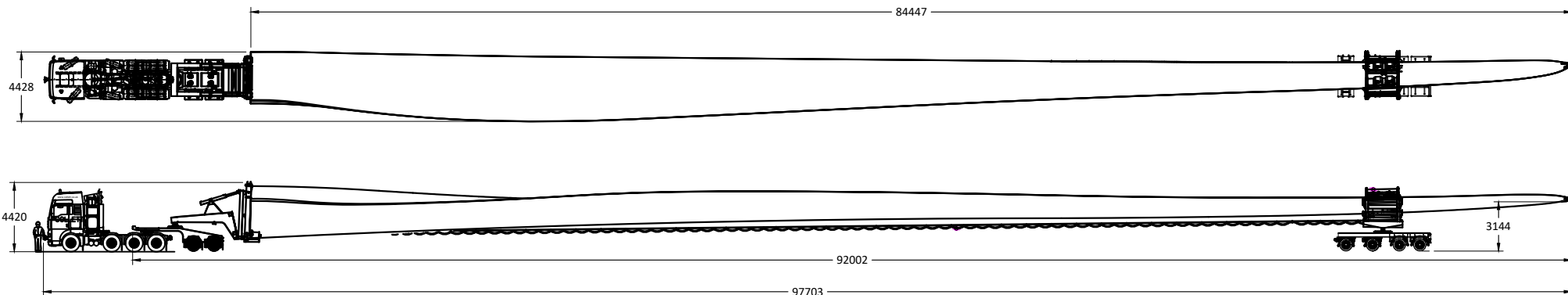
APPENDIX 1

LOADED CONFIGURATION DRAWINGS

1 2 3 4 5 6 7 8 9 10 11 12 13 14

DO NOT SCALE - IF IN DOUBT ASK

A
B
C
D
E
F
G
H
I



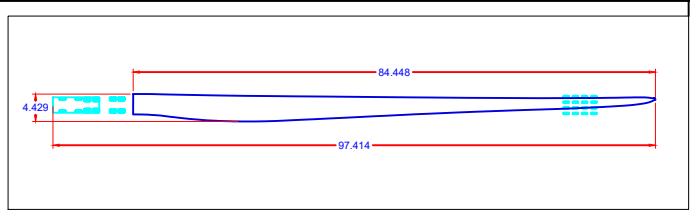
COLLETT
EXPERTS IN MOTION

COLLETT & SONS LIMITED
Victoria Terminal TEL: +44(0)8456 255288
Albert Road FAX: +44(0)8456 255244
Halifax, HX2 0DF WEB: www.collett.co.uk

DRAWN	S.BUDGEN
DATE	14/11/2022
SCALE	1:225
SIZE	A4

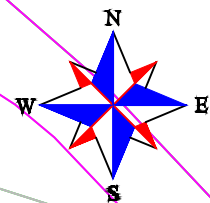
TITLE	VESTAS - V172 BLADE
SITE	CUSH WIND FARM
CUSTOMER	GALETECH
DRG No.	369854-B

APPENDIX 2
SWEPT PATH ANALYSIS DRAWINGS



Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System

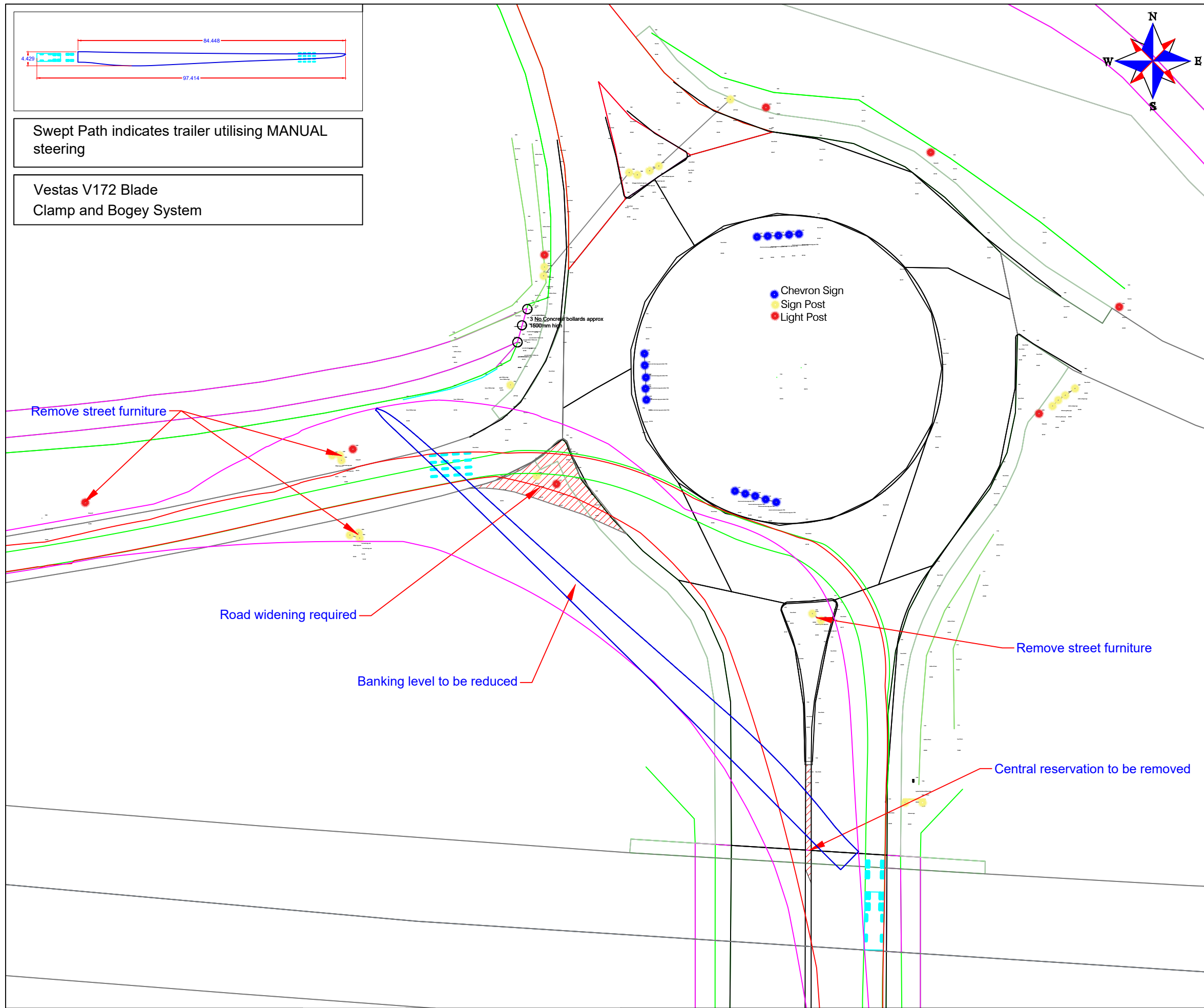


Exit M6 at junction 5 onto roundabout junction with N52.

At roundabout turn right onto N52.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- Indicated street furniture to be removed.
- Ground to be prepared to accept suitable axle loadings.

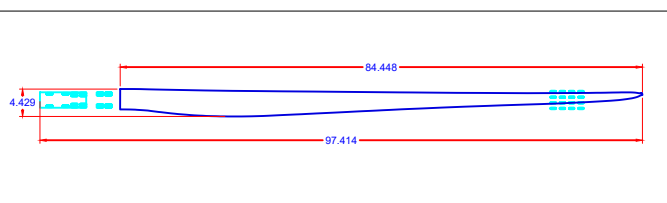


Irish Grid Reference: N 33624 34411

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Survey Data collected on site by Collett Consulting. The topographical survey is to a local grid and not to the national co-ordinates.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.

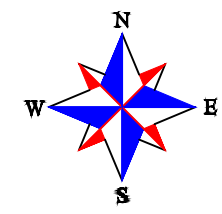
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500	TITLE MAPPING TOPOGRAPHICAL SURVEY PINCH POINT IDENTIFIED BY CLIENT	M6 / N52 RONDBAOUT CUSTOMER GALETECH SITE CUSH WIND FARM DWG. 369854-90B1.1



Swept Path indicates trailer utilising MANUAL steering

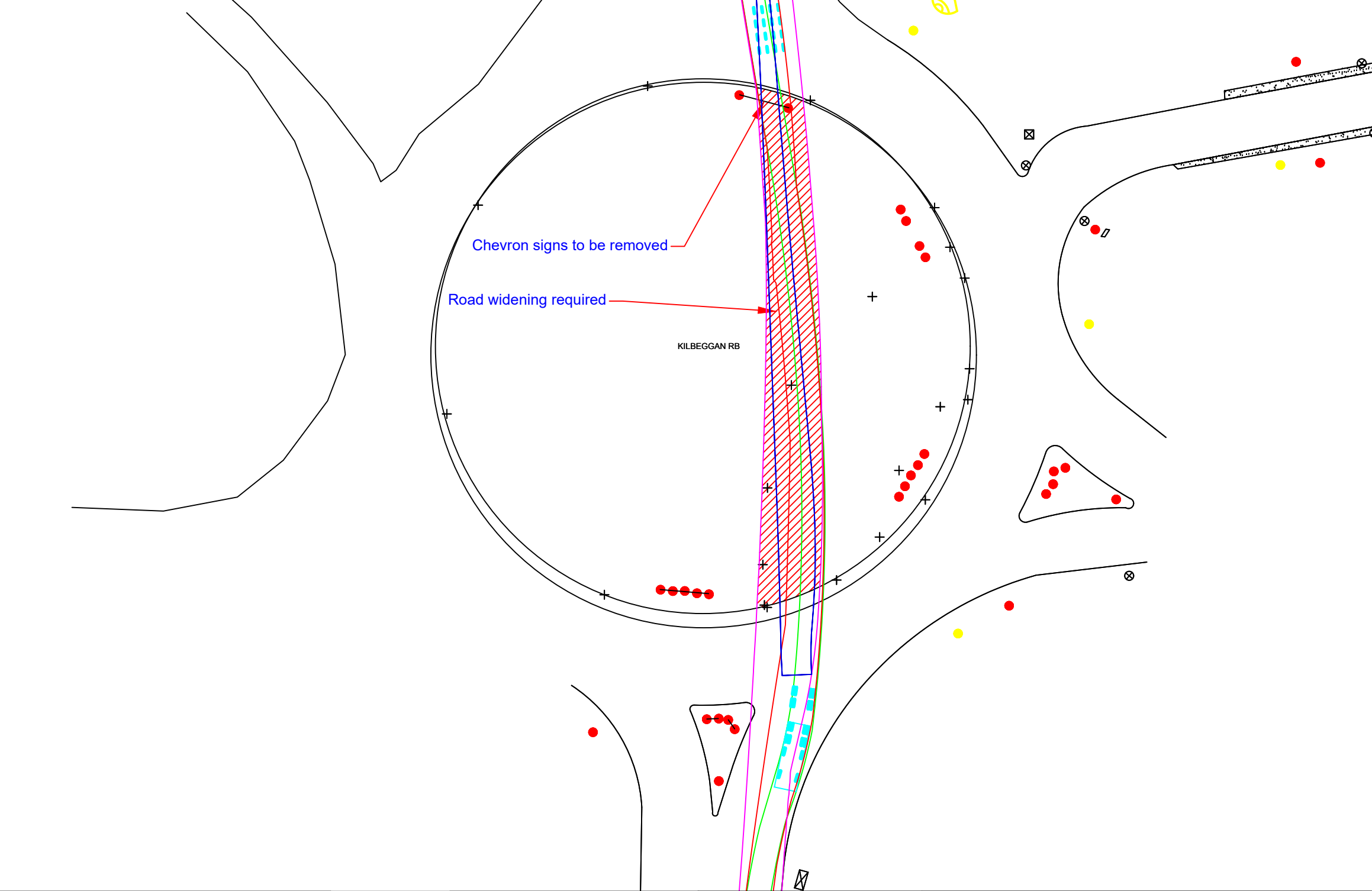
Vestas V172 Blade
Clamp and Bogey System



Exit M6 at junction 5 onto roundabout junction with N52.
At roundabout continue onto N52.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- The chevron sign is required to be removed as indicated.
- Ground to be prepared to accept suitable axle loadings.

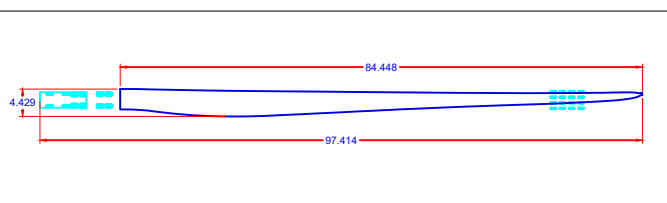


Irish Grid Reference: N 33655 34229

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- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.

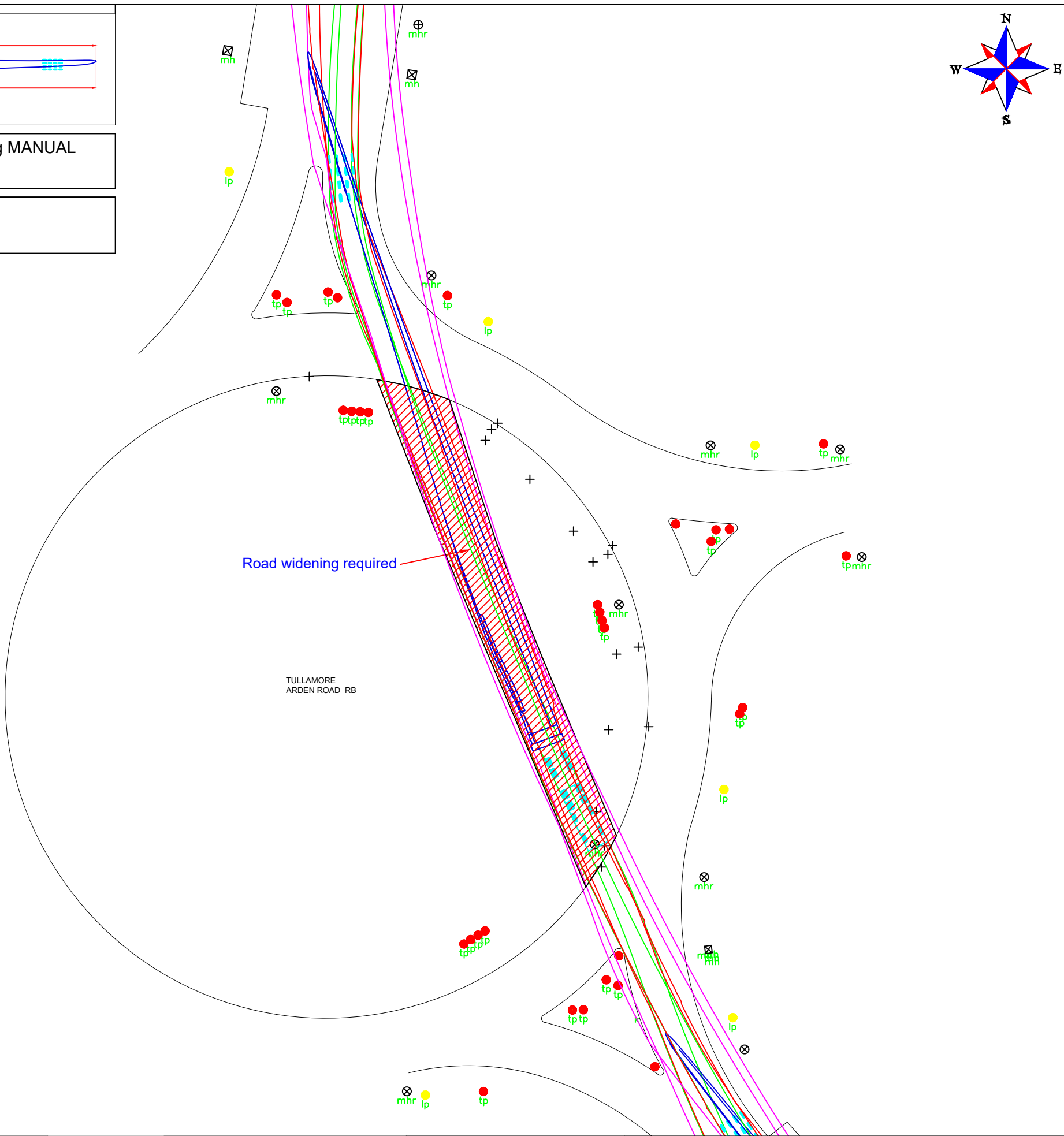
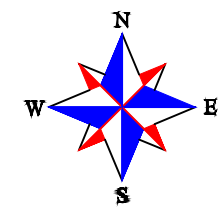
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 22/12/2022 SCALE 1:500	TITLE M6 / N52 ROUNDABOUT MAPPING TOPOGRAPHICAL SURVEY PINCH POINT IDENTIFIED BY CLIENT	CUSTOMER GALETECH SITE CUSH WIND FARM DWG. 369854-100B1.1
		SIZE A3		



Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System



Continue on N52 to Ardan Roundabout junction with R443.
At roundabout continue on N52.

****Caution****

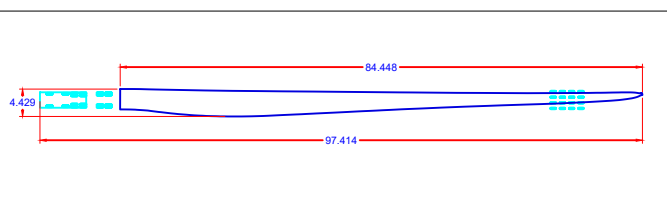
- Widening required to provide a useable road surface as indicated by the red hatching.
- Ground to be prepared to accept suitable axle loadings.

Irish Grid Reference: N 34495 26539

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Survey Data collected on site by Collett Consulting. The topographical survey is to a local grid and not to the national co-ordinates.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.

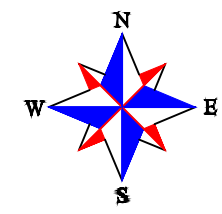
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500	TITLE N52 / R420 ROUNDABOUT MAPPING TOPOGRAPHICAL SURVEY SIZE A3	CUSTOMER GALETECH CLIENT CUSH WIND FARM SITE DWG. 369854-110B1.1
	PINCH POINT IDENTIFIED BY		CLIENT	SITE
	SCALE 1:500		SIZE A3	CLIENT CUSH WIND FARM



Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System

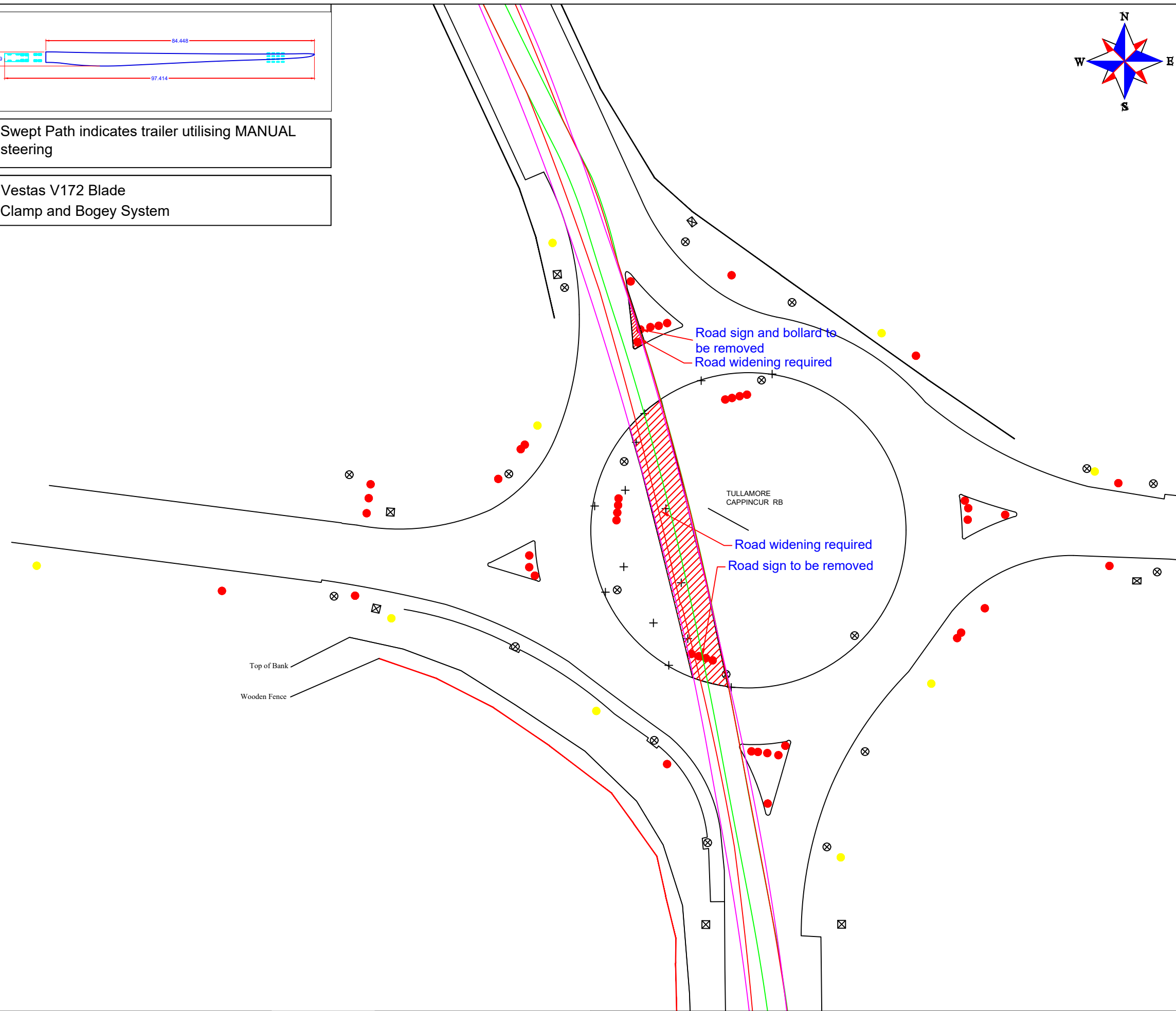


Continue on N52 to roundabout junction with L2025.
At roundabout continue on N52.

- **Caution****
- Widening required to provide a useable road surface as indicated by the red hatching.
 - Indicated street furniture to be removed.
 - Ground to be prepared to accept suitable axle loadings.

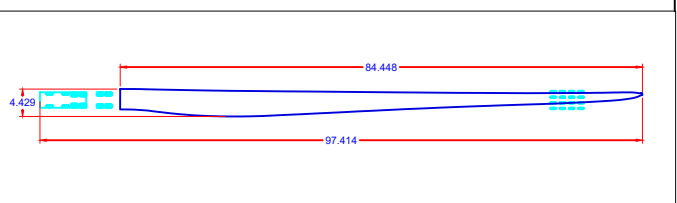
Irish Grid Reference: N 35574 25287

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Survey Data collected on site by Collett Consulting. The topographical survey is to a local grid and not to the national co-ordinates.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.



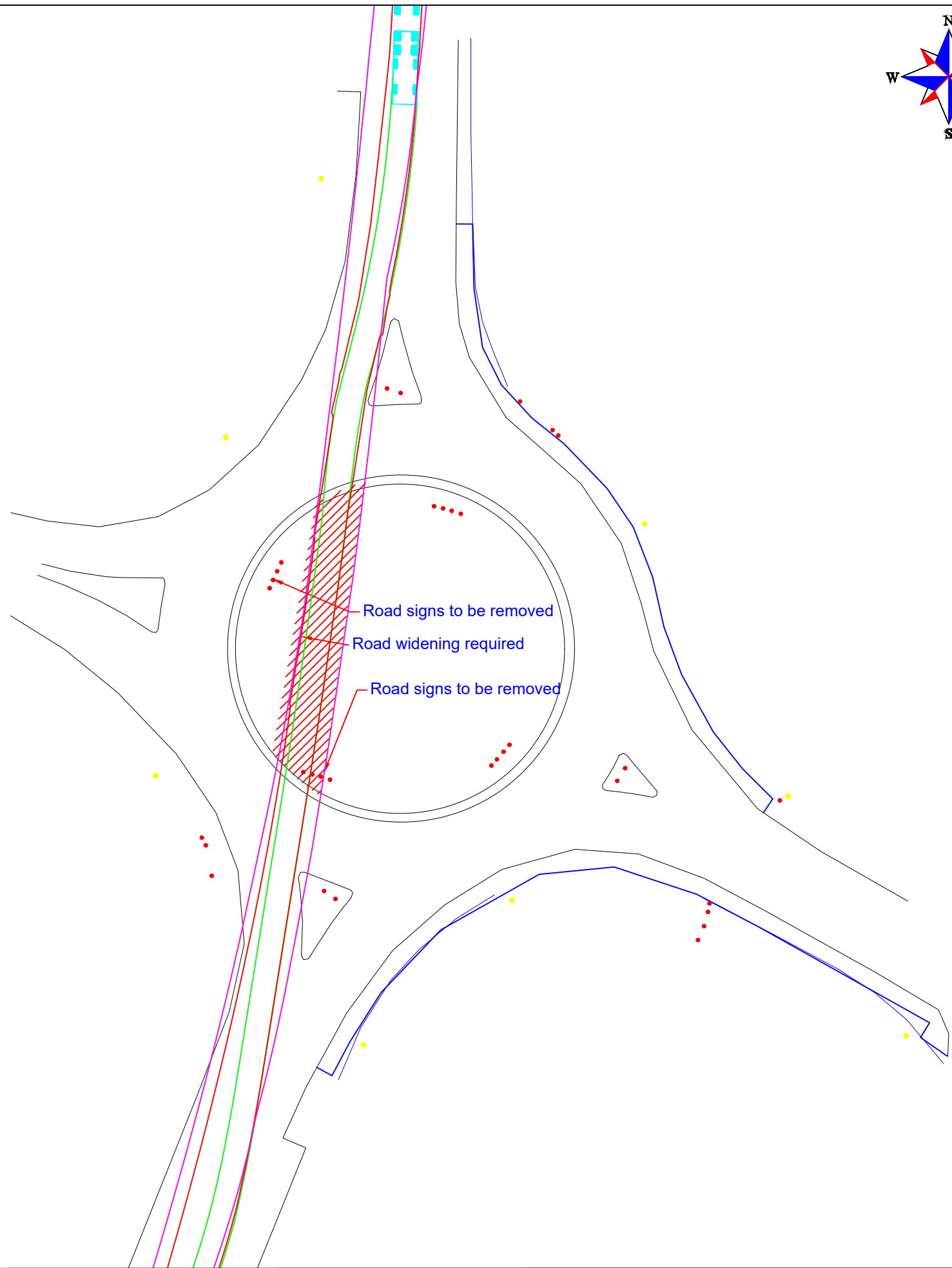
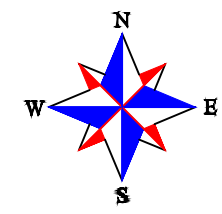
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500	TITLE N52 / L2025 ROUNDABOUT MAPPING TOPOGRAPHICAL SURVEY PINCH POINT IDENTIFIED BY CLIENT	CUSTOMER GALETECH SITE CUSH WIND FARM	DWG. 369854-120B1.1
			CLIENT	SITE	DWG.
			SIZE A3	CLIENT	SITE



Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System



Continue on N52 to roundabout junction with R420.
At roundabout continue on N52.

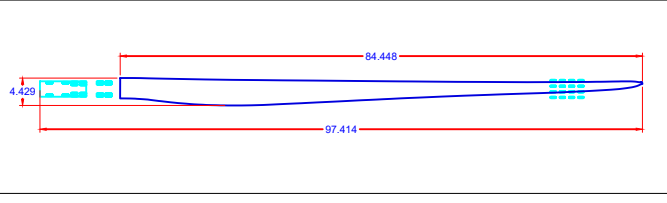
- **Caution****
- Widening required to provide a useable road surface as indicated by the red hatching.
 - Road signs on central reservation required to be removed.
 - Ground to be prepared to accept suitable axle loadings.

Irish Grid Reference: N 35887 24132

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Survey Data collected on site by Collett Consulting. The topographical survey is to a local grid and not to the national co-ordinates.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.

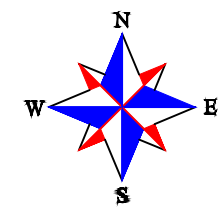
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500 SIZE A3	TITLE N52 / R420 ROUNDABOUT MAPPING TOPOGRAPHICAL SURVEY PINCH POINT IDENTIFIED BY CLIENT	CUSTOMER GALETECH SITE CUSH WIND FARM DWG. 369854-130B1.1
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Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System



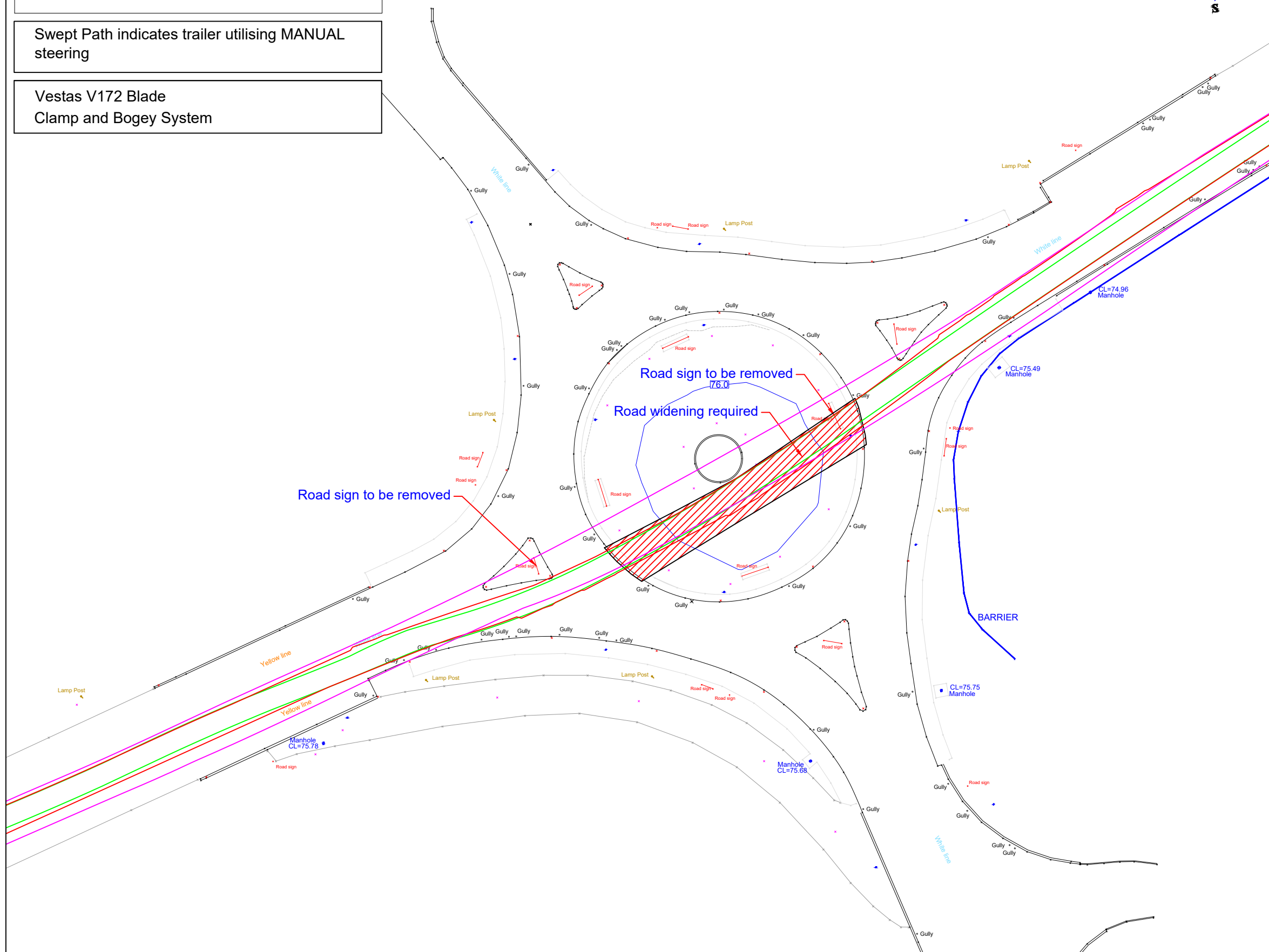
Continue on N52 to roundabout junction with N80.
At roundabout continue on N52.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- Road sign on central reservation and exit splitter island required to be removed.
- Ground to be prepared to accept suitable axle loadings.

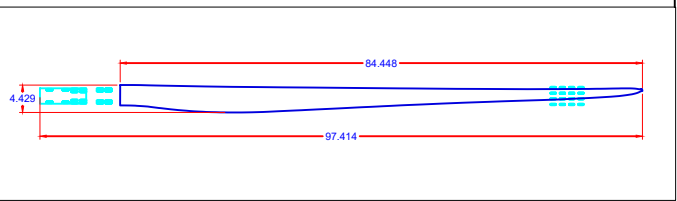
Irish Grid Reference: N 34865 22745

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
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- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
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- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufacturers Transport Guidance Notes.
- The Turbine Manufacturers Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.



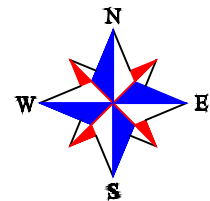
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500	SIZE A3	TITLE MAPPING TOPOGRAPHICAL SURVEY PINCH POINT IDENTIFIED BY CLIENT	N52 / N80 ROUNDABOUT CUSTOMER GALETECH SITE CUSH WIND FARM DWG. 369854-140B1.1
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Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System



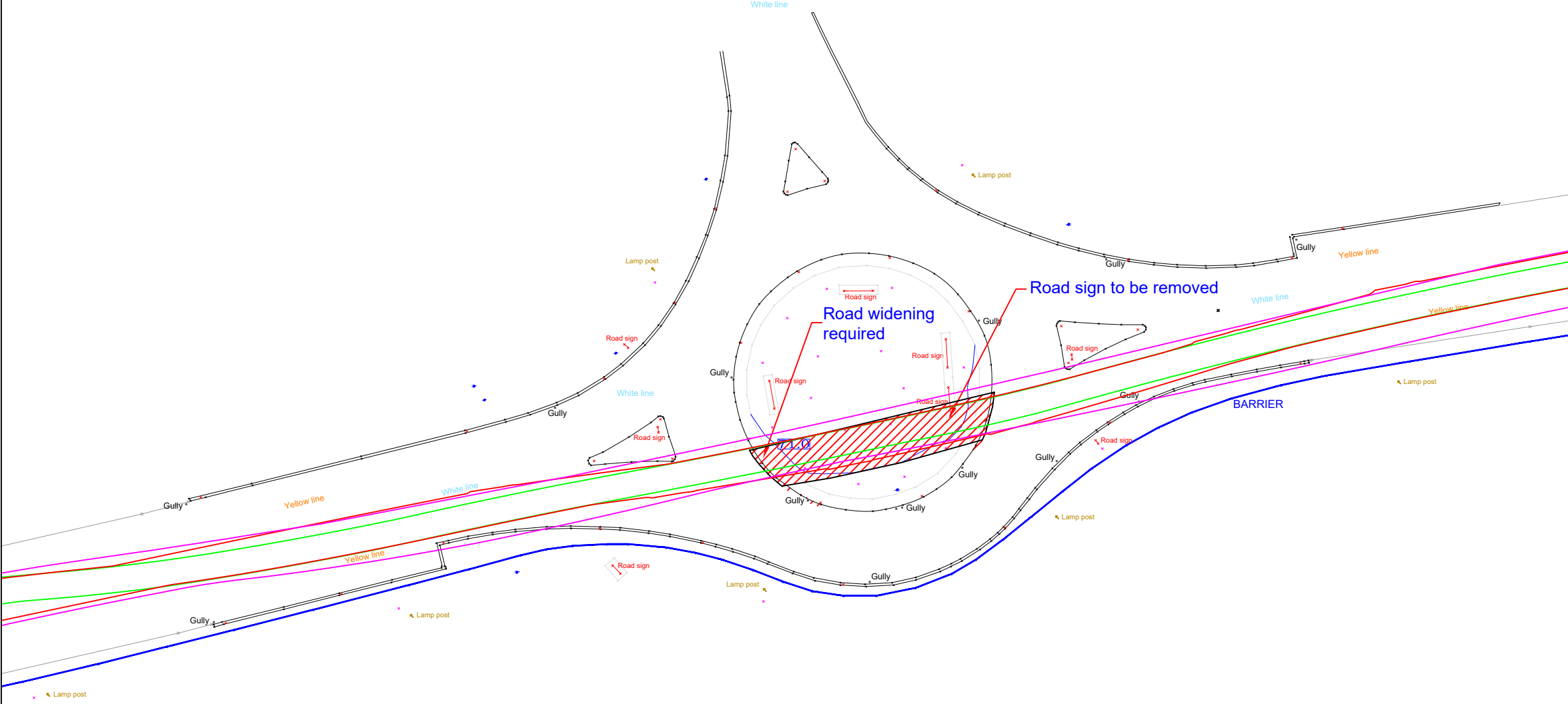
Continue on N52 to roundabout junction with Tullamore Distillery.
At roundabout continue on N52.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- Road sign on central island of roundabout required to be removed.
- Ground to be prepared to accept suitable axle loadings.

Irish Grid Reference: N 33273 22502

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- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.

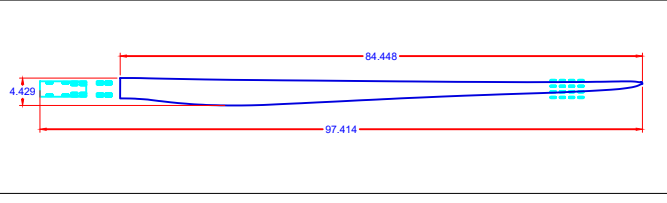


- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body



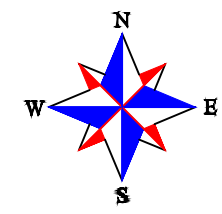
COLLETT & SONS LIMITED
Victoria Terminal TEL: +44(0)8456 255288
Albert Road FAX: +44(0)8456 255244
Halifax, HX2 0DF WEB: www.collett.co.uk

DRAWN	S.BUDGEN	TITLE	N52 / DISTILLERY RONDBAOUT		
DATE	14/11/2022	MAPPING TOPOGRAPHICAL SURVEY	CUSTOMER		
SCALE 1:500	SIZE A3	PINCH POINT IDENTIFIED BY	CLIENT	SITE	GALETECH
				CUSH WIND FARM	DWG. 369854-150B1.1



Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System



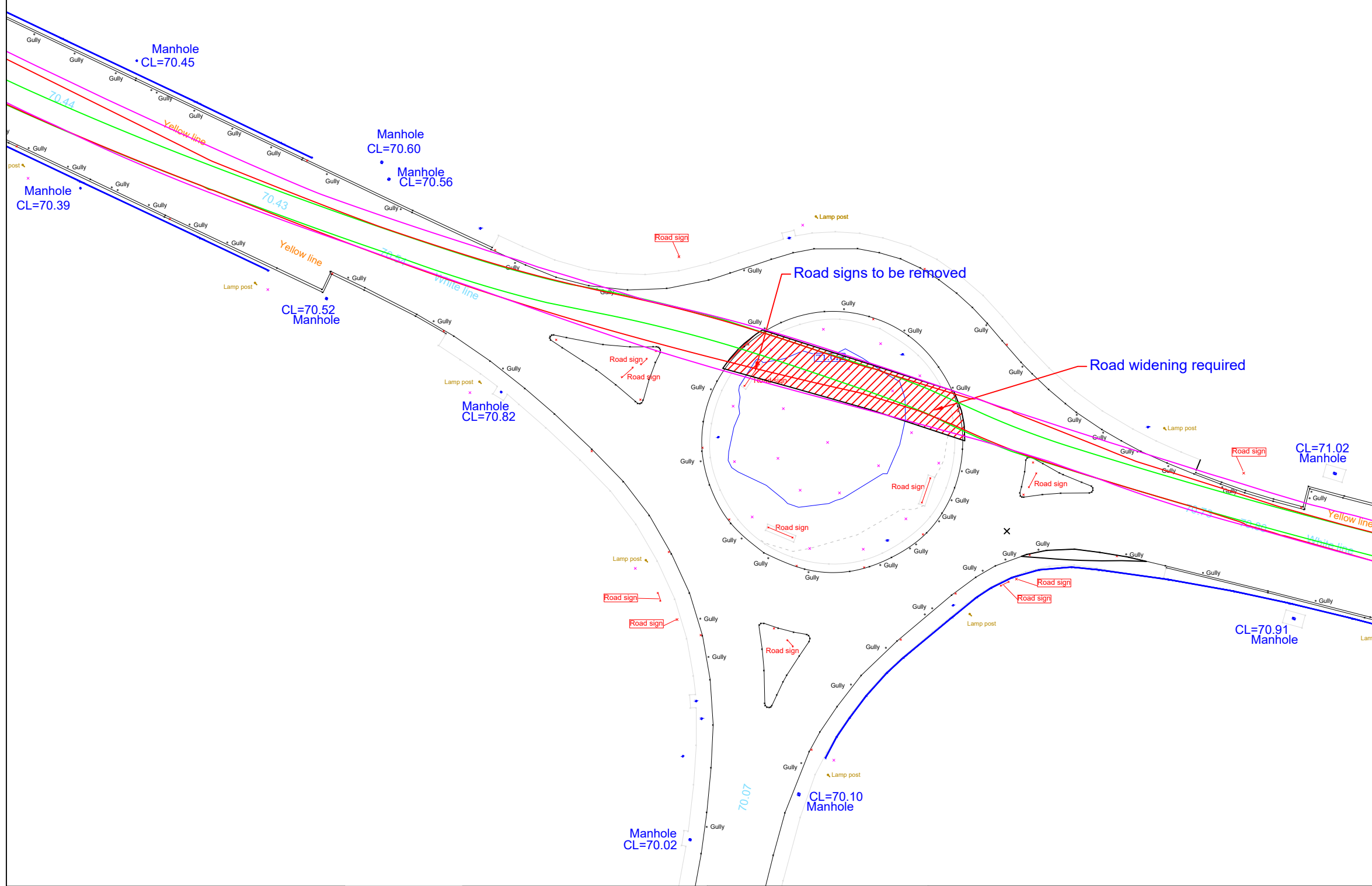
Continue on N52 to roundabout junction with R421.
At roundabout continue on N52.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- Road signs on central reservation required to be removed.
- Road sign on nearside of entrance to roundabout required to be removed to allow the rear projection of the blade to oversail.
- Tractor unit is required to utilise footpath on the exit of the roundabout and trailer is also required to utilise footpath on entrance.
- Ground to be prepared to accept suitable axle loadings.

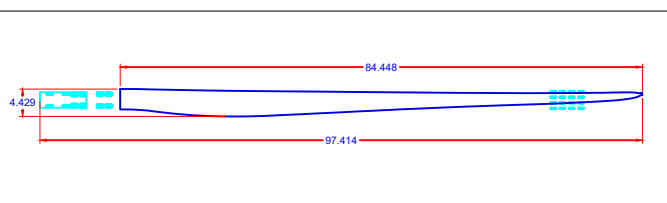
Irish Grid Reference: N 32386 22433

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Survey Data collected on site by Collett Consulting. The topographical survey is to a local grid and not to the national co-ordinates.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
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- All dimensions in meters.



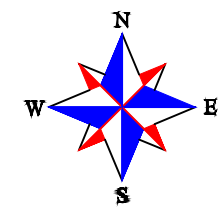
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500	TITLE N52 / R421 ROUNDABOUT MAPPING TOPOGRAPHICAL SURVEY PINCH POINT IDENTIFIED BY CLIENT	CUSTOMER GALETECH SITE CUSH WIND FARM DWG. 369854-160B1.1



Swept Path indicates trailer utilising MANUAL steering

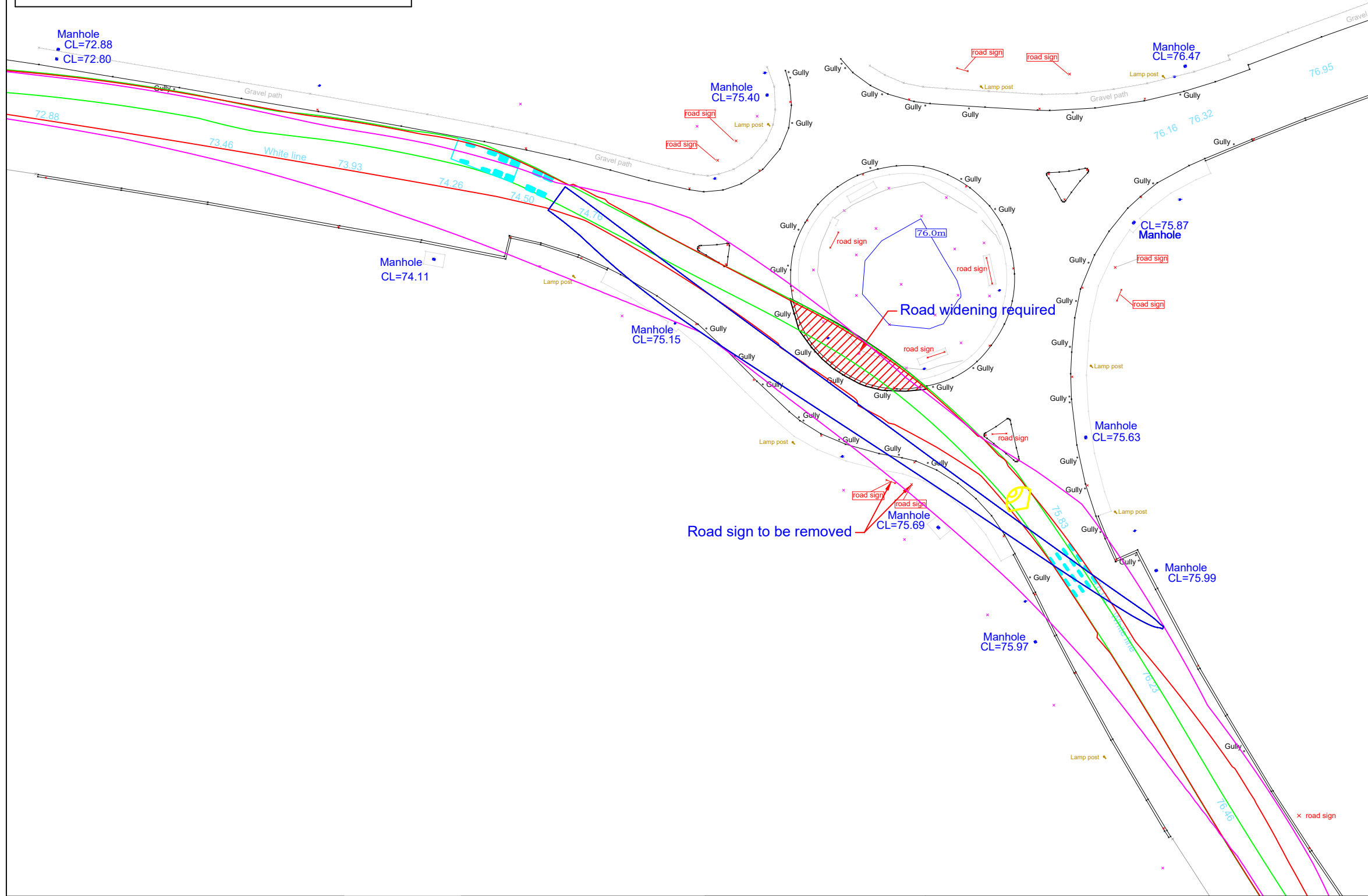
Vestas V172 Blade
Clamp and Bogey System



Continue on N52 to roundabout junction with R421.
At roundabout continue on N52.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- Indicated street furniture to be removed.
- Ground to be prepared to accept suitable axle loadings.

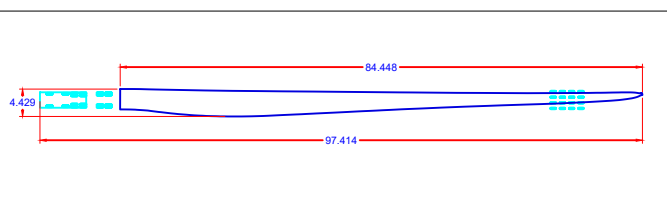


Irish Grid Reference: N 32039 22690

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- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.

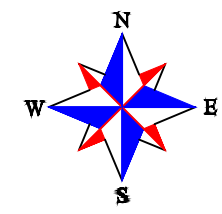
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500	SIZE A3	TITLE N52 / R421 ROUNDABOUT MAPPING TOPOGRAPHICAL SURVEY PINCH POINT IDENTIFIED BY CLIENT	CUSTOMER GALETECH SITE CUSH WIND FARM DWG. 369854-170B1.1
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Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System



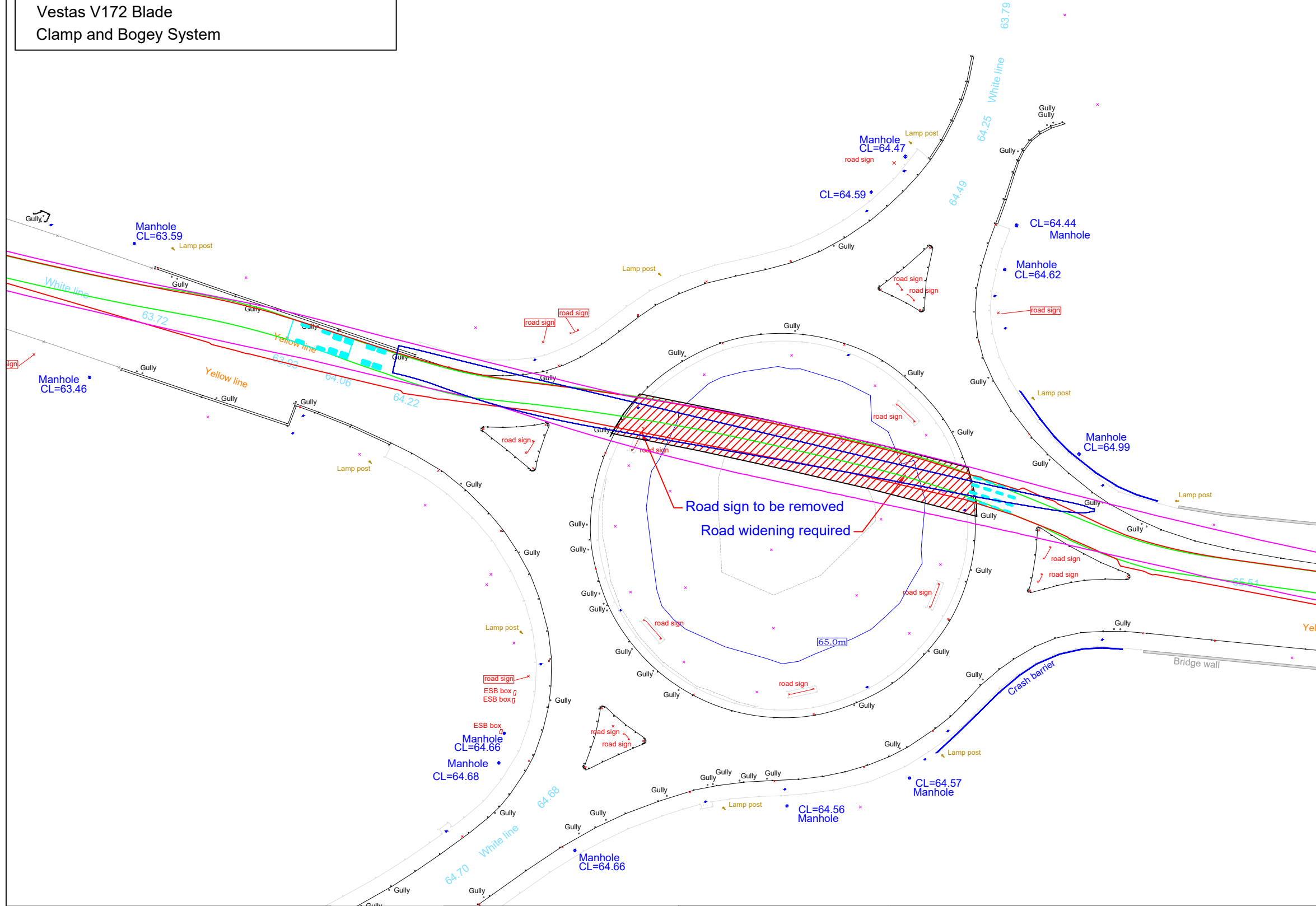
Continue on N52 to roundabout junction with L6009.
At roundabout continue on N52.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- Road sign on central island required to be removed.
- Ground to be prepared to accept suitable axle loadings.
- Contraflow manoeuvre required.

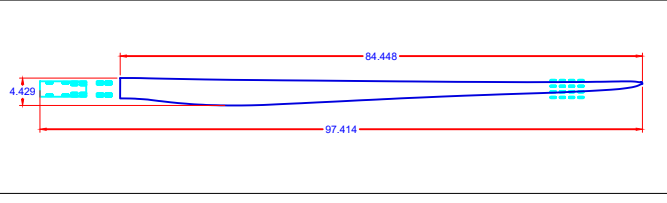
Irish Grid Reference: N 30975 22828

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- All dimensions in meters.



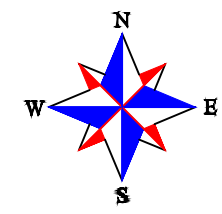
- Area within red outline will be swept by tractor and trailer axles
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- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500	TITLE N52 / L6009 ROUNDABOUT MAPPING TOPOGRAPHICAL SURVEY SIZE A3	CUSTOMER GALETECH CLIENT CUSH WIND FARM SITE DWG. 369854-180B1.1
	PINCH POINT IDENTIFIED BY		CLIENT	SITE
	SCALE 1:500		SIZE A3	CLIENT



Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System



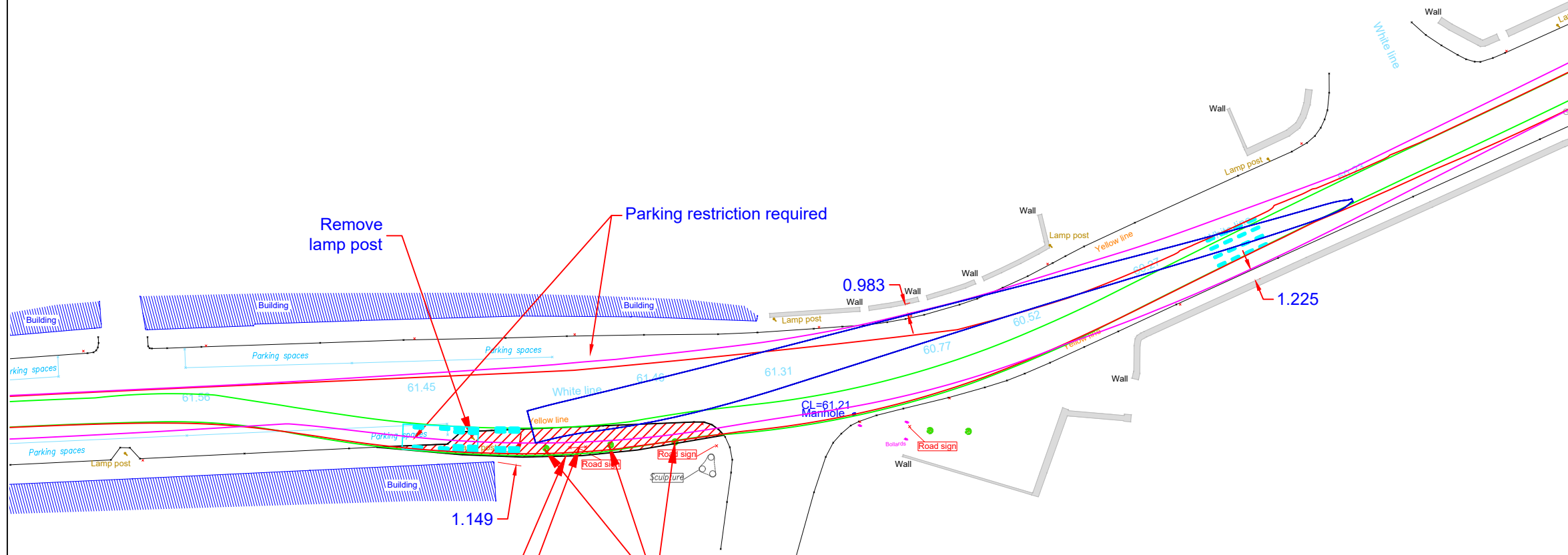
Continue on N52 to right hand bend on N52 in Kilcormac.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- Road sign, lamp post & 3 trees on the nearside to be removed.
- A parking restriction is required on the both sides of the road of N52 to allow the tractor unit to utilise this area.
- Ground to be prepared to accept suitable axle loadings.
- Blade is extremely close to third party boundaries at two locations.

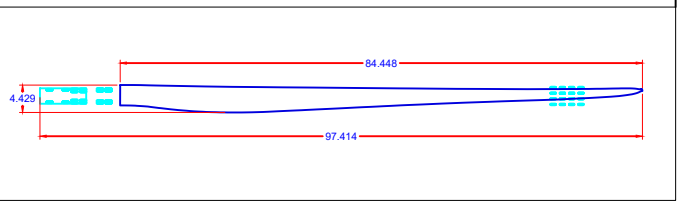
Irish Grid Reference: N 18463 14008

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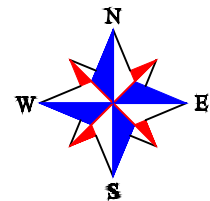
- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body

	COLLETT & SONS LIMITED Victoria Terminal TEL: +44(0)8456 255288 Albert Road FAX: +44(0)8456 255244 Halifax, HX2 0DF WEB: www.collett.co.uk	DRAWN S.BUDGEN DATE 14/11/2022 SCALE 1:500 SIZE A3	TITLE RIGHT HAND BEND IN KILCORMAC MAPPING TOPOGRAPHICAL SURVEY PINCH POINT IDENTIFIED BY CLIENT	CUSTOMER GALETECH SITE CUSH WIND FARM DWG. 369854-190B.2
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Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System

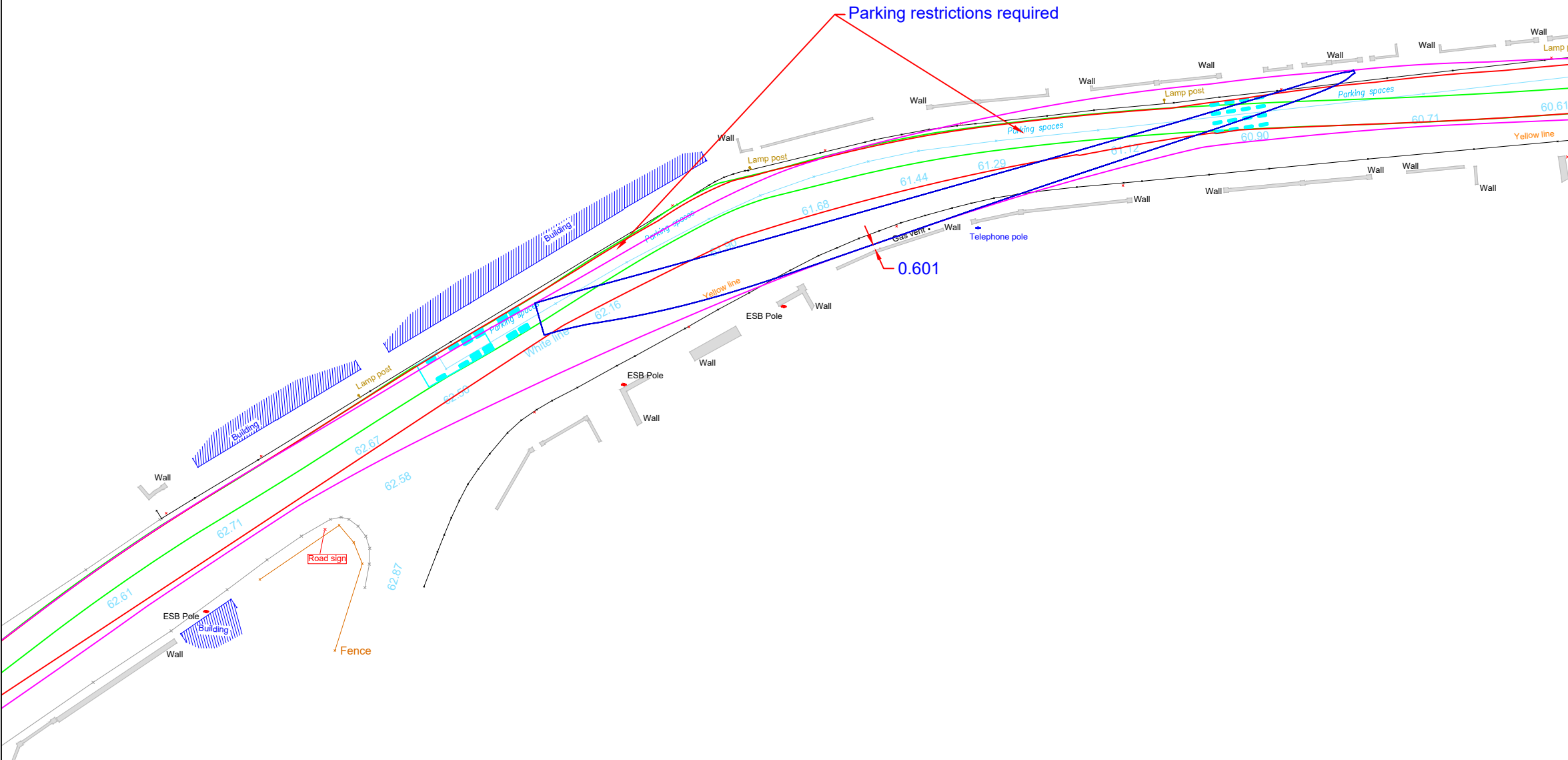


Continue on N52 to left hand bend on N52 in Kilcormac.

****Caution****

- A parking restriction is required on the nearside of N52 to allow the tractor unit to utilise this area.

Irish Grid Reference: N 18074 13975



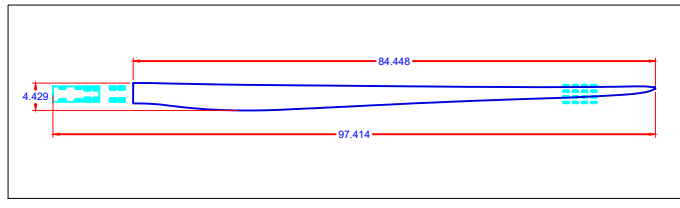
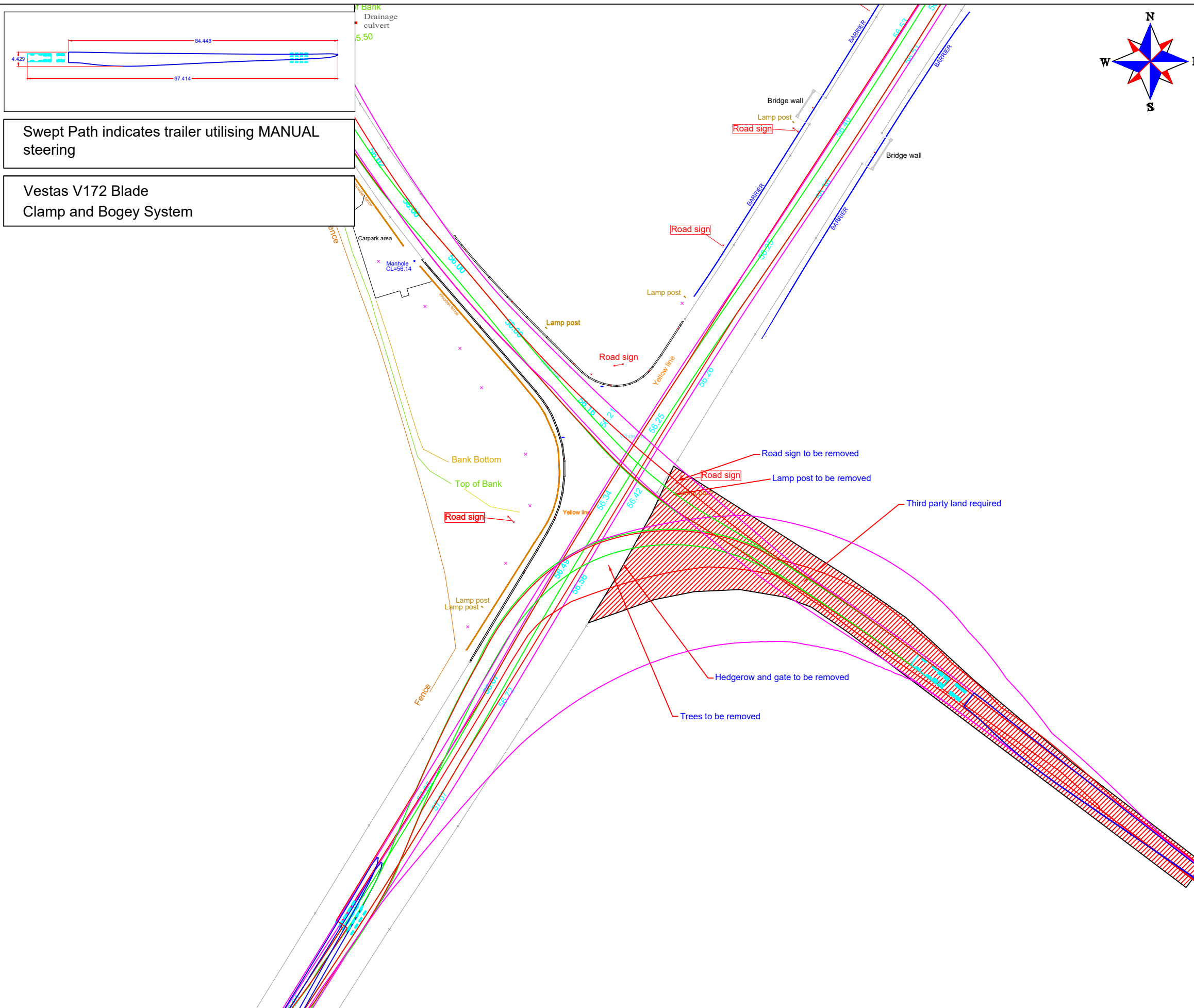
- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Survey Data collected on site by Collett Consulting. The topographical survey is to a local grid and not to the national co-ordinates.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters.

- Area within red outline will be swept by tractor and trailer axles
- ▨ Hatched area within red outline to be levelled and prepared to accept axle loadings
- Area within magenta outline will be oversailed by load and projections
- Area within green outline will be oversailed by trailer body



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Halifax, HX2 0DF WEB: www.collett.co.uk

DRAWN	S.BUDGEN	TITLE	LEFT HAND BEND IN KILCORMAC	
DATE	14/11/2022	MAPPING TOPOGRAPHICAL SURVEY	CUSTOMER	GALETECH
SCALE 1:500	SIZE A3	PINCH POINT IDENTIFIED BY	CLIENT	SITE CUSH WIND FARM
				DWG. 369854-200B1.1



Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System

Continue on N52 to junction with N62.
At junction turn right onto N62.

****Caution****

- Widening required to provide a useable road surface as indicated by the red hatching.
- Third party land required on nearside of N52 to allow vehicles to reverse into land in order to navigate the junction.
- Indicated street furniture to be removed.
- Trees to be removed on the nearside of N52.
- Hedgerow and gate to be removed.
- Ground to be prepared to accept suitable axle loadings.

Irish Grid Reference: N 07404 07437

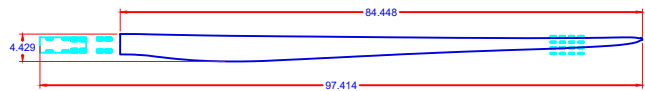
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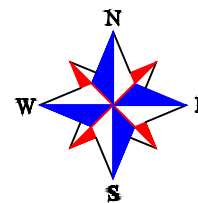
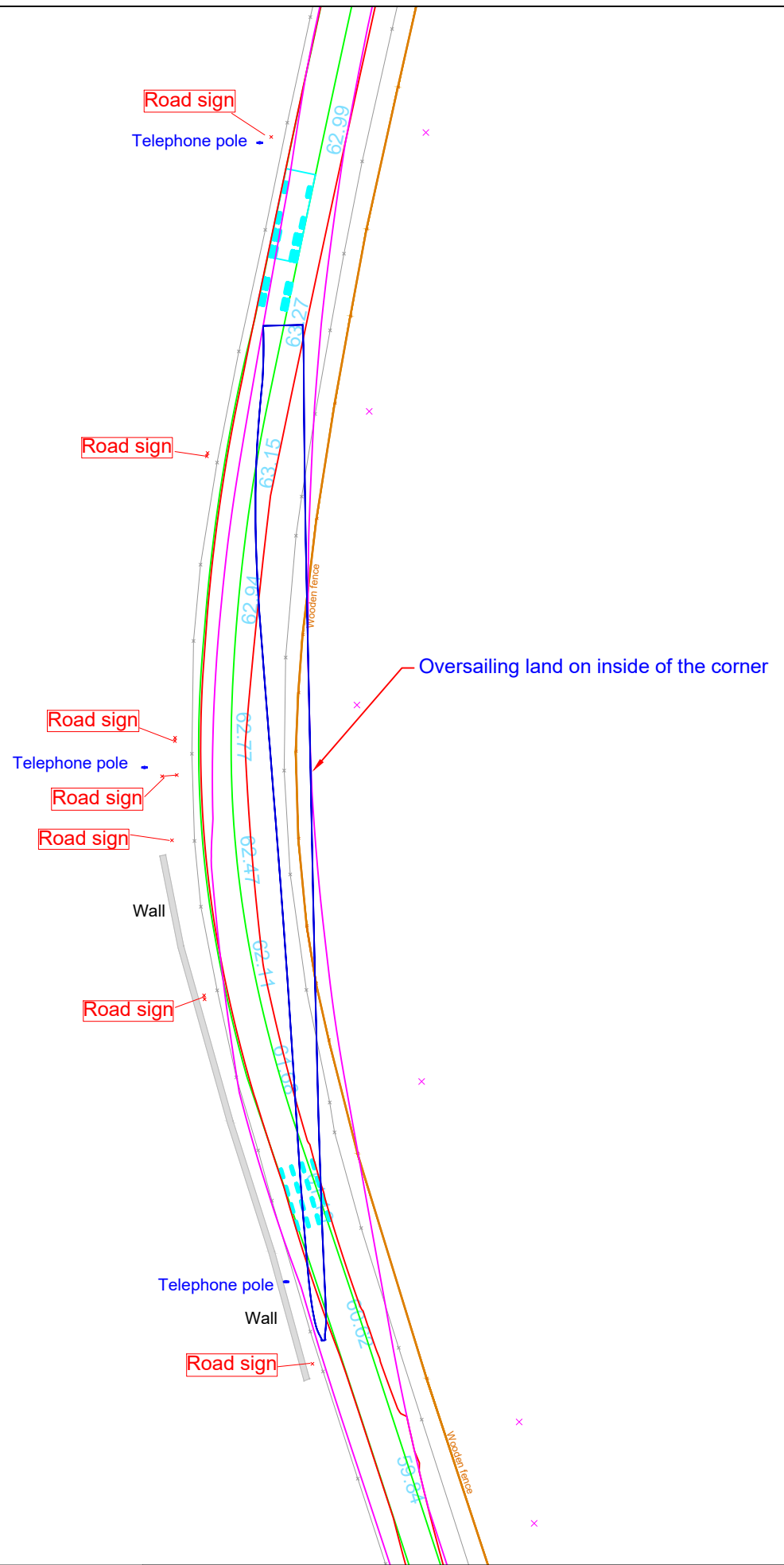
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DRAWN	S.BUDGEN	TITLE	N52 / N62 JUNCTION	
DATE	14/11/2022	MAPPING TOPOGRAPHICAL SURVEY	CUSTOMER	GALETECH
SCALE 1:750	SIZE A3	PINCH POINT IDENTIFIED BY	CLIENT	SITE CUSH WIND FARM
			DWG.	369854-210B1.1



Swept Path indicates trailer utilising MANUAL steering

Vestas V172 Blade
Clamp and Bogey System



Continue on N62 to right hand bend.

****Caution****

- The loaded vehicle will oversail the land on the inside of the corner.

Irish Grid Reference: N 07231 07935

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