

# Appendix 2A TURBINE DELIVERY ROUTE REPORT (TDR)

# MWP

# TURBINE DELIVERY ASSESSMENT REPORT

### **BRITTAS WIND FARM**

**Brittas Wind Farm Ltd.** 

**July 2024** 



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Appendix 1 – Turbine Delivery Route Drawings



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#### www.mwp.ie











#### 1. Introduction

MWP was commissioned by Brittas Wind Farm Ltd. to complete environmental, planning and engineering services in support of a planning application for a proposed wind energy development.

The proposed Wind Farm consists of 10 wind turbine generators producing over  $\sim$  50 MW of power. A plan of the proposed development is provided in **Figure 1-1**.

In support of Ireland's goal to generate 80% of its electricity from renewable sources by 2030, the project intends to feed the national grid with clean and sustainable electricity.

This report aims to identify any potential pinch points along the route and any enabling works required to facilitate delivery of the turbine blades to the proposed site.



Figure 1-1: Proposed Wind Energy Development



#### 2. Turbine Delivery Route Assessment

#### 2.1 Delivery Route Overview

The proposed Wind Farm is located on a greenfield site in the townlands of Brittas/Brownstown/Rossestown, 3km north of Thurles in County Tipperary, Ireland. The proposed Wind Farm consists of 10 No. wind turbines. No decision on the turbine make or model has been made but three models are being assessed which will have a blade length between 73m and 76m therefore a maximum blade length of 81.5m has been considered to assess the route. Malachy Walsh and Partners (MWP) have been requested to provide a study on the viability of delivering components for this class of turbine to the proposed development.

The components for each turbine are expected to be delivered in approximately 10 No. deliveries (approximately 100 No. deliveries in total). Due to their abnormal size, blades and towers will be delivered at night to avoid disruption to daytime traffic. The turbine blades will be the longest components to be transported from port to site at approximately 81.5m in length. The components are expected to be delivered by sea to one of four ports; Limerick, Galway, Waterford and Dublin and transported to site along the national, regional and local road network.

Pre and post-construction surveys will be carried out to ensure the structural integrity of the selected haulage route as per Tipperary County Council and Transport Infrastructure Ireland (TII) requirements. Repairs will be carried out on the public road network, as necessary, during the construction phase, to ensure that the condition does not deteriorate below a standard that could affect the use of the roads. Following completion of construction, the condition of the public road network will be of at least the same standard as it was prior to commencement of construction.



#### 2.2 Proposed Delivery Route

The proposed port of entry for the wind turbine components will likely be the port of Foynes in County Limerick. The proposed route travels from the port of Foynes along the N69 to the M7 motorway to Junction 25 (Nenagh Centre) to the site entrance on L8017. A description of the section is provided below, and an overview of the proposed section is shown in **Figure 2-1**,

- Exit M7 at Junction 25
- M7/R498/ Roundabout, Exit travelling southeast
- Travelling southeast along R498 to Borrisoleigh
- Travelling southeast along R498 to Thurles
- R498/Jimmy Doyle Rd Roundabout, 1st Exit travelling northeast
- Turn left at Jimmy Doyle Rd/N62 (Brittas Rd) junction
- Travelling north along N62 (Brittas Rd) to Brittas
- Turn right at N62 (Brittas Rd)/L8017 (Rossestown Rd junction)
- Travelling east along L8017.
- Turn left at site entrance for wind turbines 1 8
- Turn right at site entrance for wind turbines 9 10

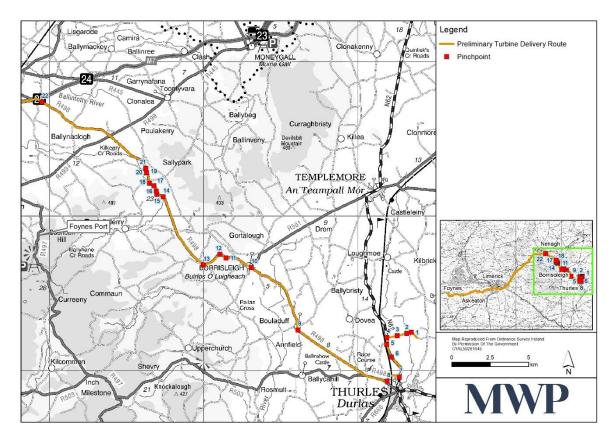


Figure 2-1 Proposed Turbine Delivery Route



#### 2.3 Swept Path Analysis

The proposed turbines will have a blade length of between 73m and 76m. For the swept path analysis, a larger blade length of 81.5m was modelled to allow for extra clearance and avoid constraints along the route. The extent of the proposed blades will fit within the swept path area detailed in this analysis

A vehicle swept path analysis (SPA) of an 81.5m blade on a vehicle with an overall length of 93.3m (truck and blade) was completed using Autodesk ® Vehicle Tracking software.

Analysing aerial photography, topographical survey, GIS and information from site visits for the proposed route highlighted pinch points that required a vehicle tracking model.

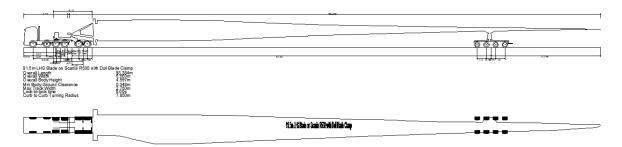


Figure 2-2 Blade configuration details used for Autodesk Vehicle Tracking

The Autodesk model was developed for an 81.5m blade with a 14.8m overhang on a Scania R500 (doll blade clamp) truck and bogie trailer, see **Figure 2-2**, in assessing the route from M7 junction 25 Nenagh (centre) to the proposed site entrances on L8017 The type of trailer used for the model is common for transporting turbine blades and available from heavy haulage / turbine transport companies.

An automatic steering principle within the software was used where possible but otherwise a manual override system is used with a conservative maximum steering angle of 30°, apart from N62 – Cluian Glas T-Junction where a 50° steering angle was used, to help alter the path of the bogie past constraints at pinch points.

The Swept Path Analysis output is illustrated in the drawings included in **Appendix 1**. This shows the extents of the wheel swept path, vehicle body swept path and blade swept path as the delivery truck manoeuvres around each pinch point. This information highlights areas that require widening or clearance along the route. See Table 3-1 for an overview of works required to public roads along the turbine delivery route. The images within the table are extracts from the Autodesk model, the coloured lines represent different elements of the delivery vehicle.

- Cyan Vehicle outline
- Red Wheelbase footprint (truck & trailer)
- Magenta Extent of Load outline
- Green Extent of body outline (tower/blade)

#### 2.4 Delivery Route Enabling Works

The section of the route that has been modelled is from the M7, junction 25 Nenagh (centre), along the R498 through Borrisoleigh and Thurles to the site at Brittas. Table 3-1 shows the pinch points along the route, provides a description of the enabling works required and drawing number for each pinch point. The route is split into three zones, the table also shows which zone the pinch point is in and the corresponding drawing number showing the zone.



Zone 1: Brittas site to Thurles town

Zone 2: Thurles to Borrisoleigh

Zone 3: Borrisoleigh to M7 junction 25



Table 3-1: Overview of Works Required along Turbine Delivery Rout



Zone Ref#	Ref#	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
ZONE 1	1	23318-MWP-HR-01-DR-C-1101	23318-MWP- HR-01-DR-C- 0102	Site Entrance to T7 L8017 ITM Coordinates: 613416, 662524	Y	Trees and vegetation to be trimmed on north & south side of L8017 Trees and vegetation to be removed on north side of L8017 Fence to be removed on northside of L8017 Turbine will over sail on both north and south sides of L8017 Stream crossing on TDR to T7 construction of a bridge required Road widening needed on northside of L8017	
	2	·C-1101	23318-MWP- HR-01-DR-C- 0103	Site entrance to T9 L8017 ITM Coordinates: 613106, 662446	Y	•Trees and vegetation to be trimmed on south side of L8017 •Fence to be removed on south side of L8017 • Vegetation to be removed on south side of L8017	



Zone Ref#	Ref#	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	3		23318-MWP- HR-01-DR-C- 0104	Site Entrance to T8 L8017 ITM Coordinates: 612498, 662301	Y	•Trees to be trimmed on south side of L8017 •Vegetation to be trimmed on north side of L8017 •Vegetation to be removed on north side of L8017 •Minor oversailing to occur on south side of L8017 •Road widening on north side of L8017	
	4		23318-MWP- HR-01-DR-C- 0105	N62-L8017 Junction ITM Coordinates: 611819, 662197	Y	"•Significant tree and vegetation removal on east side of N62  •Significant tree and vegetation removal on south side of L8017  •Significant road widening needed on both N62 and L8017s.  •Minor oversailing to occur on north side of L8017"	

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Zone Ref#	Ref#	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	5		23318-MWP- HR-01-DR-C- 0106	N62-Brittas Road Junction ITM Coordinates: 611811, 661742	N	"•Delivery truck will overrun onto the footpath on west side of N62 just after junction with Brittas Road, will be 0.2 metres from wall on west side  •Trees will need to be trimmed on east side of N62  •Traffic sign will need to be removed on west and east side of N62  •Turbine will oversail on west and east side of N62"	SECTION TO BE SECTION OF THE SECTION
	6		23318-MWP- HR-01-DR-C- 0107	N62-Right Hand Bend ITM Coodinates: 612130, 660913	N	•Turbine will oversail slightly on west and east side of N62	ANATORIS CALCUMATORIS A



Zone Ref#	Ref#	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	7		23318-MWP- HR-01-DR-C- 0108	N62-Cluain Glas (Jimmy Doyle Road) T Junction ITM Coordinates: 612643, 659625	Y	"•Vegetation & trees to be trimmed & removed on east side of N62 & north & south side of Jimmy Doyle Road  •Lamp post to be removed on west & east side of N62 as well as north & south side of Jimmy Doyle Road  •Traffic light to be removed on south side of Jimmy Doyle Road  •Traffic sign to be removed on north & south side of Jimmy Doyle Road  •Traffic sign to be removed on north & south side of Jimmy Doyle Road & west side of N62  •Road widening works to take place on north & south side of Jimmy Doyle Road. Road widening to take place on west & east side of N62  •Significant oversailing to occur on south & north side of Jimmy Doyle Road. Oversailing will also take place on west side of N62"	

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Zone Ref#	Ref#	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	8		23318-MWP- HR-01-DR-C- 0109	Tipperary Institute Roundabout ITM Coordinates: 611842, 659350	N	"•Traffic signs to be removed on R498, Nenagh Road & roundabout island  •Lamp posts to be removed on R498 and Nenagh Road  •Tree to be trimmed on north side of R498  •Bollards to be removed on west & east side of Nenagh Road  •Oversailing will occur on west & east side of Nenagh Road as well as north & south side of R498  •Road widening will occur on east side of Nenagh Road and south side of R498"	The first training of

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Zone Ref#	Ref#	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	9	2:	23318-MWP- HR-02-DR-C- 0110	R498/L4124 Junction ITM Coordinates: 606061, 662680	Y	•Trees & vegetation to be trimmed on west & east side of R498 •Traffic signs to be removed on west side of R498 •Road widening to be implemented on west side of R498 •Turbine will oversail on west and east side of R498	
ZONE 2	10	23318-MWP-HR-02-DR-C-1102	23318-MWP- HR-02-DR-C- 0111	R498 / Borrisoleigh Town ITM Coordinates: 603049, 666723	N	Trees need to be trimmed on north side of R498 and tree trimming needed on south side     Overhead cable must be noted on north side of R498     Turbine will oversail on both north & south sides of R498 through Borrisoleigh	THE THE PROPERTY OF THE PROPER
	11		23318-MWP- HR-02-DR-C- 0112	R498 / Left Hand Bend ITM Coordinates: 601416, 667332"	Y	Vegetation to be trimmed on north and south side of R498     Traffic sign to be removed on south side of R498     Turbine will oversail on both the north and south side of R498 of bend	COTE LONG TO THE STATE OF THE S



Zone Ref#	Ref#	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	12		23318-MWP- HR-02-DR-C- 0113	R498 / Right Hand Bend ITM Coordinates: 601010, 667573	Y	•Trees & Vegetation to be trimmed on north and south side of R498 •Traffic Signs to be removed on north side of R498 •Possibility bank may need to be lowered on north side of R498 •Electricity pole and pole stay to be removed on south side of R498 •Turbine will oversail on north and south side of R498	
	13		23318-MWP- HR-02-DR-C- 0114	Left Hand Bend after R498/L4141 Junction ITM Coordinates: 599944, 666881	Y	Significant tree and vegetation removal required on north and south side of R498 Traffic signs and electricity poles to be removed Turbine will oversail on both north and south side of R498	



Zone Ref#	Ref #	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
ZONE	14	23318-MWP-H	23318-MWP- HR-03-DR-C- 0115	R498 "S" Bends Sheet 1 ITM Coordinates: 597338, 671292	Y	Significant vegetation and tree removal required on north and south side of R498 Turbine will oversail on north and south side of R498	SOCIETATION TO SE TRANSCO
NE 3	15	23318-MWP-HR-03-DR-C-1103	23318-MWP- HR-03-DR-C- 0116	R498 <b>"</b> S" Bends Sheet 2 ITM Coordinates: 596925, 671451	Y	Significant tree and vegetation removal needed on north and south side of R498 Bank on north side may need to be lowered Traffic sign to be removed on south side of R498 Turbine will oversail on north and south side of R498	



Zone Ref#	Ref #	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	16		23318-MWP- HR-03-DR-C- 0117	R498 "S" Bends Sheet 3 ITM Coordinates: 596892, 671671	Y	Significant tree and vegetation removal needed on west and east side of R498 Turbine will oversail on west and east side of R498	SECRETATION TO SETTIMANCE
	17		23318-MWP- HR-03-DR-C- 0118	R498 "S" Bends Sheet 4 ITM Coordinates: 596740, 672023	Y	Significant vegetation removal and tree trimming needed on north and south side of R498  Turbine will oversail on west and east side of R498	ASSANCANT VIGITATION SEASONS, SECURED  SEASON



Zone Ref#	Ref #	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	18		23318-MWP- HR-03-DR-C- 0119	R498 "S" Bends Sheet 5 ITM Coordinates: 596445, 672176	Y	Tree to be removed on west side of R498 & tree/vegetation trimming needed on both sides Traffic sign to be removed on west side Turbine will oversail on west and east side of R498	THESE TO BE REMOVED.  SECURITION TO BE TRANSPORT.  SECURITION TO BE TRANSPORT.
	19		23318-MWP- HR-03-DR-C- 0120	R498 "S" Bends Sheet 6 ITM Coordinates: 596251, 672857	Y	Turbine will oversail on west and east side of R498 Vegetation to be trimmed on west and east side Significant tree and vegetation removal needed on east side of R498 Electricity poles to be removed on west side of R498	ELECTRICITY POLE TO BE SELECTED.  SERVICIANT THESE AND VISCETATION REMOVAL RECURSED.



Zone Ref#	Ref #	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	20		23318-MWP- HR-03-DR-C- 0121	R498 "S" Bends Sheet 7 ITM Coordinates: 596215, 673147	N	Vegetation to be trimmed on west and east side of R498     Turbine will oversail on west side of R498	13.14.15.15.15.15.15.15.15.15.15.15.15.15.15.
	21		23318-MWP- HR-03-DR-C- 0122	R498 "S" Bends Sheet 8 ITM Coordinates: 596215, 673147	N	Vegetation to be trimmed on west and east side of R498     Turbine will oversail on west and east side of R498	PARESTANDAY TO AS TRANSCO-TO



Zone Ref#	Ref #	Overview Drawing Number	Pinch Point Drawing Number	Description of Location	Agreement Required**	Description of Enabling Works	Aerial photo of site location
	22		23318-MWP- HR-03-DR-C- 0123	M7/R498 Roundabout ITM Coordinates: 589473, 677443	N	Traffic signs to be removed Small tree on roundabout island to be removed and tree trimming needed on north side of R498 Turbine will oversail on north side of R498	THE TO A THREE  THE TO BE THE SENDOOD  THEFT SON TO BE MADOUT!



#### 3. Recommendations and Conclusions

The swept path analysis has identified areas of oversail and overrun along the proposed turbine delivery route. These have been detailed in the drawings appended to this report.

Prior to commencement of any works and delivery of turbines to site, a permit for moving abnormal loads to the wind farm site will be sought from An Garda Síochána, Tipperary County Council and Limerick County Council on the selected haulage route. A detailed transportation plan with a breakdown of the timing of deliveries will be established at construction stage.



### Appendix 1

### **Turbine Delivery Route Assessment Drawings**



NOTES:

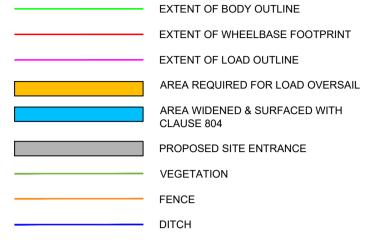
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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



REFERENCE DRAWINGS:	
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23318-MWP-HR-01-DR-C-1101	HAUL ROUTE WIDENING WORKS MASTER SHEET - FROM TIPPERARY ROUNDABOUT TO SITE
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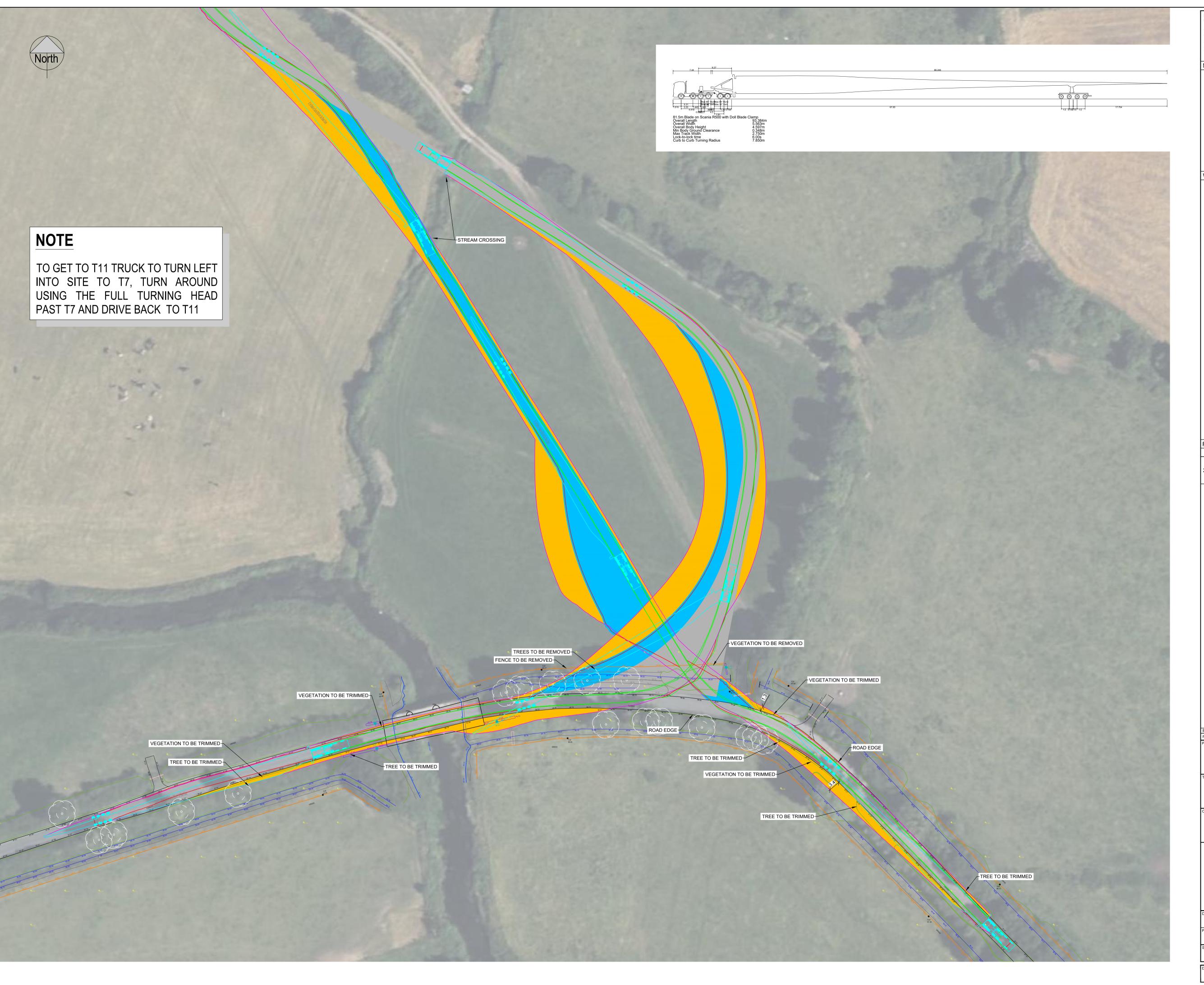
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# BRITTAS WIND FARM

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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND

EXTENT OF BODY OUTLINE EXTENT OF WHEELBASE FOOTPRINT EXTENT OF LOAD OUTLINE AREA REQUIRED FOR LOAD OVERSAIL AREA WIDENED & SURFACED WITH CLAUSE 804 PROPOSED SITE ENTRANCE **VEGETATION FENCE** 

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BRITTAS WIND FARM

HAUL ROUTE WIDENING WORKS -SITE ENTRANCE T7

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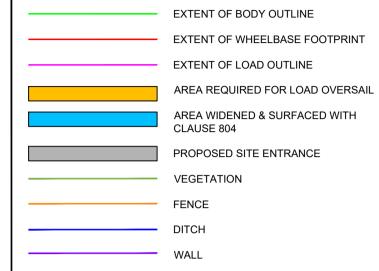


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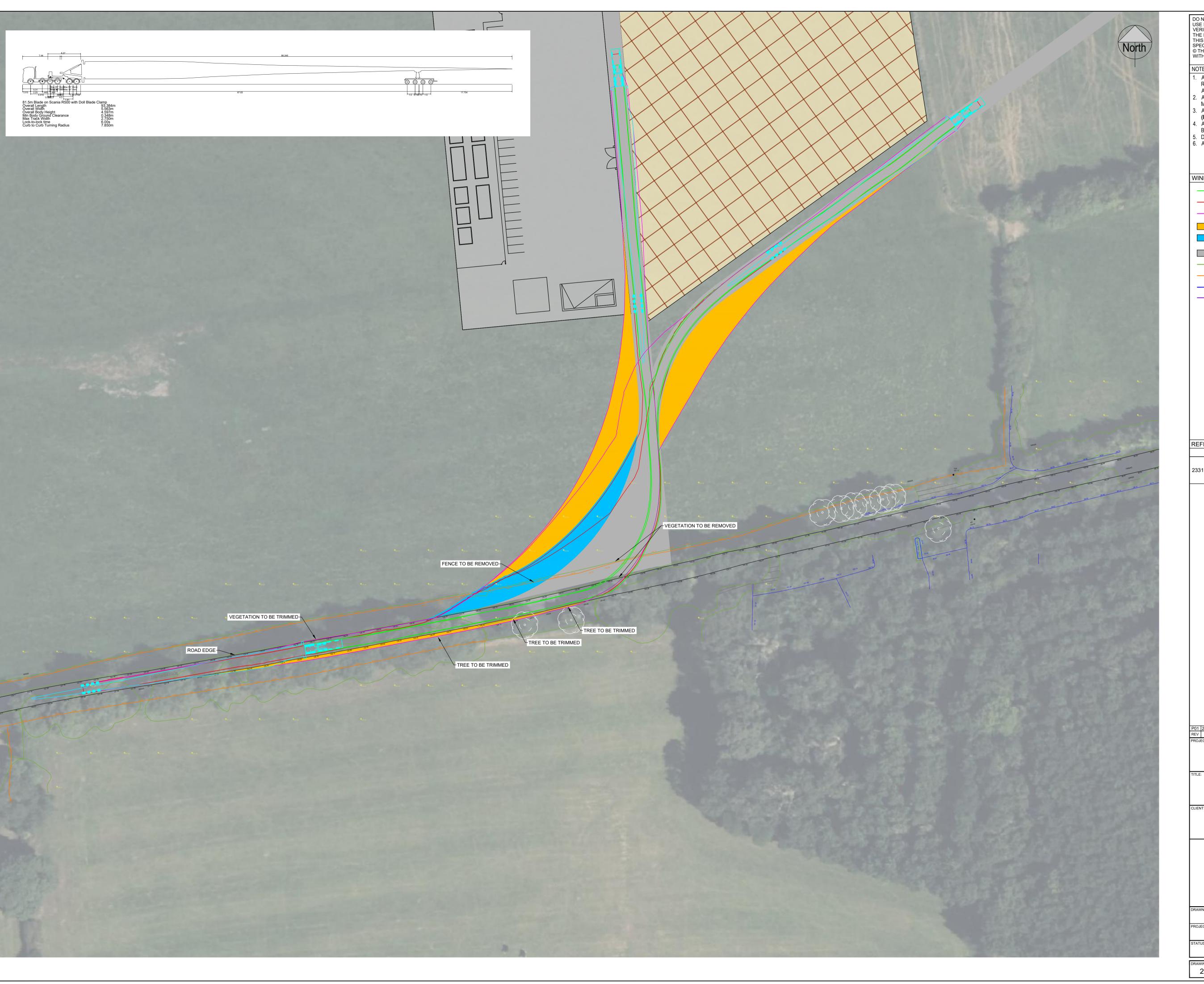
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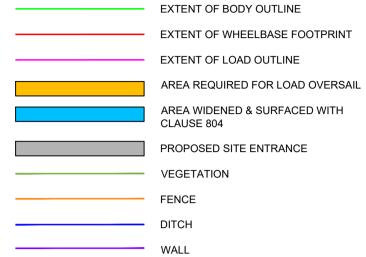


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# **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -SITE ENTRANCE T8



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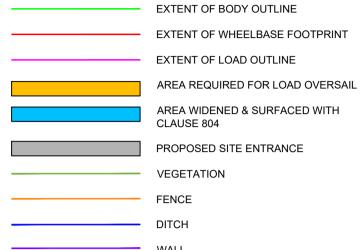
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# BRITTAS WIND FARM

HAUL ROUTE WIDENING WORKS -N62-ROSSESTOWN ROAD JUNCTION



ENGINEERING AND ENVIRONMENTAL CONSULTANTS CORK TRALEE LONDON LIMERICK

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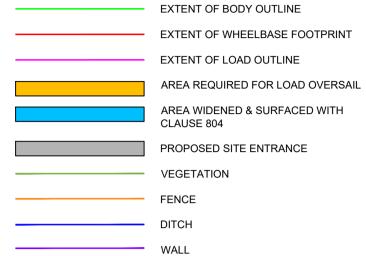
NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM

ALL LEVELS ARE IN METRES RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.
 ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR (ITM) AND IN METERS.
 ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
 DRAWINGS ARE NOT TO BE SCALED.
 ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



REFERENCE DRAWINGS:		
DRAWING No.	DRAWING TITLE	
23318-MWP-HR-01-DR-C-1101	HAUL ROUTE WIDENING WORKS MASTER SHEET - FROM TIPPERARY ROUNDABOUT TO SITE	

P01	26/07/23	ISSUED FOR INFORMATION	OR	BS
REV	DATE	DESCRIPTION	BY	APP
PROJECT:				

# BRITTAS WIND FARM

HAUL ROUTE WIDENING WORKS -N62 - BRITTAS RD JUNCTION

# Orsted

CORK TRALEE LONDON LIMERICK

DRAWN:	CHECKED:	APPROVED:	
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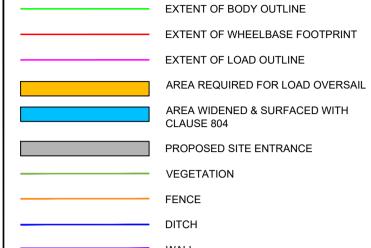


NOTES:

. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES,
ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

2. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM ALL LEVELS ARE IN METRES RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.
 ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR (ITM) AND IN METERS.
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 DRAWINGS ARE NOT TO BE SCALED.
 ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



REFERENCE DRAWINGS:	
DRAWING No.	DRAWING TITLE
	HAUL ROUTE WIDENING WORKS
23318-MWP-HR-01-DR-C-1101	MASTER SHEET - FROM
255 10-101 - 11K-01-DK-C-1101	TIPPERARY ROUNDABOUT TO
1	SITE

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# **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -N62 RIGHT HAND BEND

Orsted



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FOR INFORMATION		S2	



NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

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(ITM) AND IN METERS. . ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE

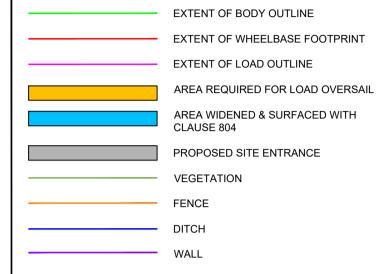
BROUGHT TO THE ATTENTION OF THE ENGINEER.

5. DRAWINGS ARE NOT TO BE SCALED.

6. ALL DIMENSIONS ARE IN **METRES**, UNLESS NOTED OTHERWISE. THE REAR STEERING ANGLE OF THE TRAILER MAY EXCEED 30° IN SOME LOCATIONS. WHERE THIS OCCURS, THE TRAILER MAY

NEED TO BE PUSHED AT THE REAR TO FOLLOW THE PATH

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



REFERENCE	DRAWINGS:

DRAWING No.	DRAWING TITLE
	HAUL ROUTE WIDENING WORKS
23318-MWP-HR-01-DR-C-1101	MASTER SHEET - FROM
	TIPPERARY ROUNDABOUT TO
	SITE

P03	10/07/24	ISSUED FOR INFORMATION	OR	CMcL
P02	05/07/24	ISSUED FOR INFORMATION	JK	CMcL
P01	26/07/23	ISSUED FOR INFORMATION	OR	BS
REV	DATE	DESCRIPTION	BY	APP
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# **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -N62-CLUAIN GLAS T JUNCTION

BRITTAS WIND FARM LTD.



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23318	26/07/23		1:500
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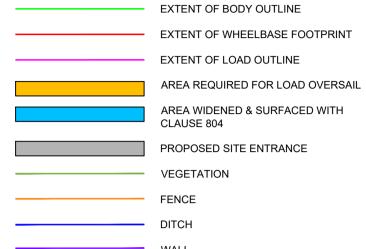


NOTES:

1. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

- 2. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM
- ALL LEVELS ARE IN METRES RELATED TO ORDINANCE DATUM MALIN HEAD OSGM15.
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   DRAWINGS ARE NOT TO BE SCALED.
   ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



REFERENCE DRAWINGS:	
DRAWING No.	DRAWING TITLE
23318-MWP-HR-01-DR-C-1101	HAUL ROUTE WIDENING WORKS MASTER SHEET - FROM TIPPERARY ROUNDABOUT TO SITE

1	26/07/23	ISSUED FOR INFORMATION	OR	BS
V	DATE	DESCRIPTION	BY	APP
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## **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -TIPPERARY INSTITUTE ROUNDABOUT

# Orsted

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PROJECT NUMBER:	DATE:	SCALE @	A1:
23318	26/07/23		1:500
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ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

- . ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.
- 3. ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR (ITM) AND IN METERS.
- 4. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

  5. DRAWINGS ARE NOT TO BE SCALED.
- 6. ALL DIMENSIONS ARE IN **METRES**, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND

 EXTENT OF WHEELBASE FOOTPRINT EXTENT OF LOAD OUTLINE

AREA REQUIRED FOR LOAD OVERSAIL AREA WIDENED & SURFACED WITH CLAUSE 804

EXTENT OF BODY OUTLINE

PROPOSED SITE ENTRANCE

REFERENCE DRAWINGS:

DRAWING No. DRAWING TITLE

# **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -MASTER SHEET - FROM TIPPERARY ROUNDABOUT TO SITE

Orsted

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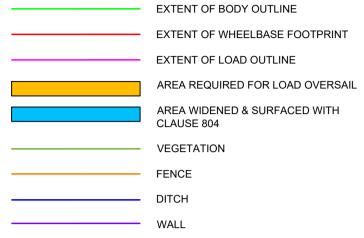


NOTES:

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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



REFERENCE DRAWINGS:	
DRAWING No.	DRAWING TITLE
	HAUL ROUTE WIDENING WORKS
23318-MWP-HR-02-DR-C-1102	MASTER SHEET - FROM
25510-10001 -1110-02-1510-0-1102	BORRISOLEIGH TO
	TIPPERARY ROUNDABOUT

P01	08/08/23	ISSUED FOR INFORMATION	OR	BS
REV	DATE	DESCRIPTION	BY	APP
PROJI	ECT <sup>.</sup>			

# **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -R498/L4124 JUNCTION

Orsted

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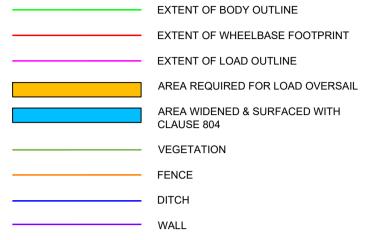
NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



REFERENCE DRAWINGS:	
DRAWING No.	DRAWING TITLE
23318-MWP-HR-02-DR-C-1102	HAUL ROUTE WIDENING WORKS  MASTER SHEET - FROM BORRISOLEIGH TO TIPPERARY ROUNDABOUT

P03	10/07/24	ISSUED FOR INFORMATION	OR	CMcL
P02	05/07/24	ISSUED FOR INFORMATION	JK	CMcL
P01	08/08/23	ISSUED FOR INFORMATION	OR	BS
REV	DATE	DESCRIPTION	BY	APP
PRO.II	FCT:			

# **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -BORRISOLEIGH TOWN

BRITTAS WIND FARM LTD.

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O.R.	P.C.		B.S.
PROJECT NUMBER:	DATE:	SCALE @	A1:
23318	08/08/23	1:500	
STATUS DESCRIPTION			STATUS:
FOR	INFORMATION		S2

DRAWING NUMBER: 23318 - MWP -HR- 02 -DR-C- 0111



NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

2. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.

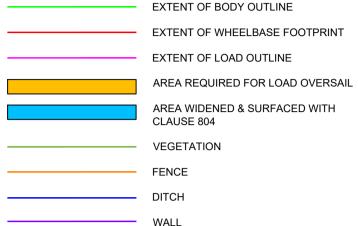
3. ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR (ITM) AND IN METERS.

4. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

5. DRAWINGS ARE NOT TO BE SCALED.

6. ALL DIMENSIONS ARE IN **METRES**, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND EXTENT OF BODY OUTLINE



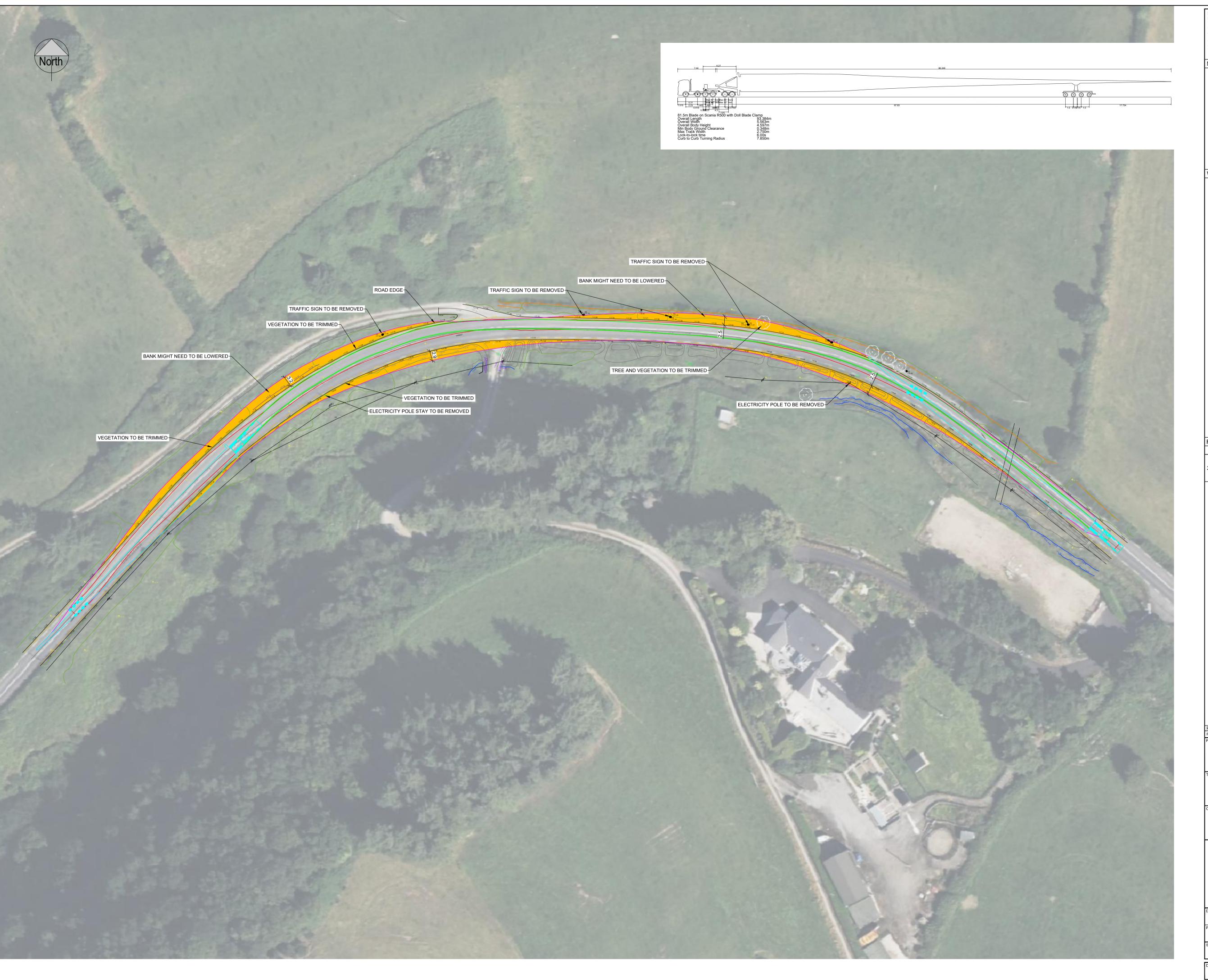
REFERENCE DRAWINGS:	
DRAWING No.	DRAWING TITLE
23318-MWP-HR-02-DR-C-1102	HAUL ROUTE WIDENING WORKS  MASTER SHEET - FROM  BORRISOLEIGH TO  TIPPERARY ROUNDABOUT

BRITTAS WIND FARM

HAUL ROUTE WIDENING WORKS -LEFT HAND BEND

B.S. 1:500

FOR INFORMATION S2



NOTES:

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. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.

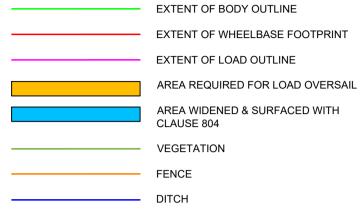
3. ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR (ITM) AND IN METERS.

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6. ALL DIMENSIONS ARE IN **METRES**, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



	REFERENCE DRAWINGS:	
	DRAWING No.	DRAWING TITLE
	23318-MWP-HR-02-DR-C-1102	HAUL ROUTE WIDENING WORKS
		MASTER SHEET - FROM
		BORRISOLEIGH TO
		TIPPERARY ROUNDABOUT

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#### **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -RIGHT HAND BEND

Orsted

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PROJECT NUMBER:	DATE:	SCALE @	A1:
23318	08/08/23		1:500
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23318 - MWP -HR- 02 -DR-C- 0113			P01



NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.

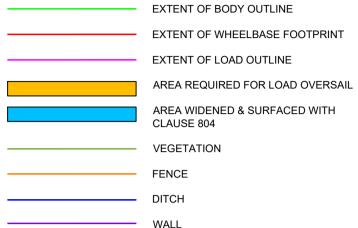
3. ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR (ITM) AND IN METERS.

4. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

5. DRAWINGS ARE NOT TO BE SCALED.

6. ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



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HAUL ROUTE WID	TITLE
23318-MWP-HR-02-DR-C-1102  MASTER SHE BORRISOLI TIPPERARY RO	ET - FROM EIGH TO

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REV	DATE	DESCRIPTION	BY	APP

#### **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -LEFT HAND BEND AFTER R498/L4141 JUNCTION

DRAWN:	CHECKED:	APPROVE	:D:
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PROJECT NUMBER:	DATE:	SCALE @	A1:
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STATUS DESCRIPTION	l		STATUS:
FOR	INFORMATION		S2



#### NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

- . ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.
- 3. ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR (ITM) AND IN METERS.
- 4. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

  5. DRAWINGS ARE NOT TO BE SCALED.

  6. ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND

EXTENT OF WHEELBASE FOOTPRINT

EXTENT OF BODY OUTLINE

EXTENT OF LOAD OUTLINE AREA REQUIRED FOR LOAD OVERSAIL

AREA WIDENED & SURFACED WITH CLAUSE 804 PROPOSED SITE ENTRANCE

REFERENCE DRAWINGS:

DRAWING No.

DRAWING TITLE

## **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -MASTER SHEET - FROM BORRISOLEIGH TO TIPPERARY ROUNDABOUT

Orsted

DRAWN:	CHECKED:	APPROVE	D:
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STATUS DESCRIPTION			STATUS:
FOR	INFORMATION		S2



NOTES:

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. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.

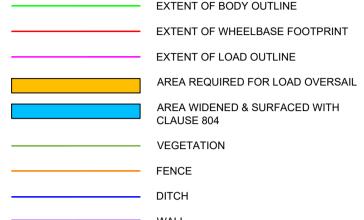
3. ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR (ITM) AND IN METERS.

4. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

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6. ALL DIMENSIONS ARE IN **METRES**, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND EXTENT OF BODY OUTLINE



	REFERENCE DRAWINGS:	
	DRAWING No.	DRAWING TITLE
	23318-MWP-HR-03-DR-C-1103	HAUL ROUTE WIDENING WORKS
		MASTER SHEET - FROM M7/R498
		ROUNDABOUT TO
		BORRISOLEIGH

#### BRITTAS WIND FARM

HAUL ROUTE WIDENING WORKS -R498 "S" BENDS. SHEET 1

Orsted

CORK TRALEE LONDON LIMERICK

B.S. SCALE @ A1: 09/08/23 1:500 S2 FOR INFORMATION



NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

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5. DRAWINGS ARE NOT TO BE SCALED.

6. ALL DIMENSIONS ARE IN **METRES**, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND EXTENT OF BODY OUTLINE

 EXTENT OF WHEELBASE FOOTPRINT EXTENT OF LOAD OUTLINE AREA REQUIRED FOR LOAD OVERSAIL AREA WIDENED & SURFACED WITH CLAUSE 804 VEGETATION **FENCE** 

DITCH

WALL

REFERENCE DRAWINGS: DRAWING No. DRAWING TITLE HAUL ROUTE WIDENING WORKS 23318-MWP-HR-03-DR-C-1103 MASTER SHEET - FROM M7/R498 ROUNDABOUT TO BORRISOLEIGH

BRITTAS WIND FARM

HAUL ROUTE WIDENING WORKS -R498 "S" BENDS. SHEET 2

CORK TRALEE LONDON LIMERICK

B.S. 1:500 09/08/23 S2 FOR INFORMATION



NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

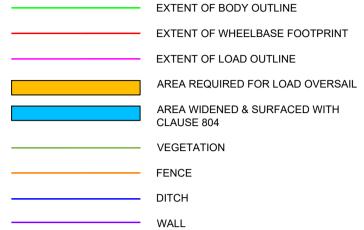
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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



DRAWING No.	DRAWING TITLE
	HAUL ROUTE WIDENING WO
	MASTER SHEET - FROM M7/F

IING WORKS 23318-MWP-HR-03-DR-C-1103

MASTER SHEET - FROM M7/R498
ROUNDABOUT TO
BORRISOLEIGH

#### BRITTAS WIND FARM

HAUL ROUTE WIDENING WORKS -R498 "S" BENDS. SHEET 3

# Orsted

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PROJECT NUMBER:	DATE:	SCALE @	A1:
23318	09/08/23		1:500
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DRAWING NUMBER:			REV:



NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

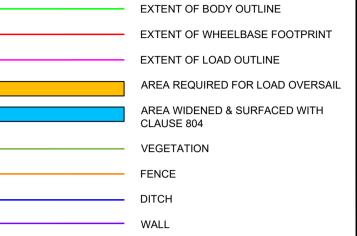
. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15.

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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



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DRAWING No.	DRAWING TITLE
23318-MWP-HR-03-DR-C-1103	HAUL ROUTE WIDENING WORKS MASTER SHEET - FROM M7/R498 ROUNDABOUT TO BORRISOLEIGH

#### **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -R498 "S" BENDS. SHEET 4

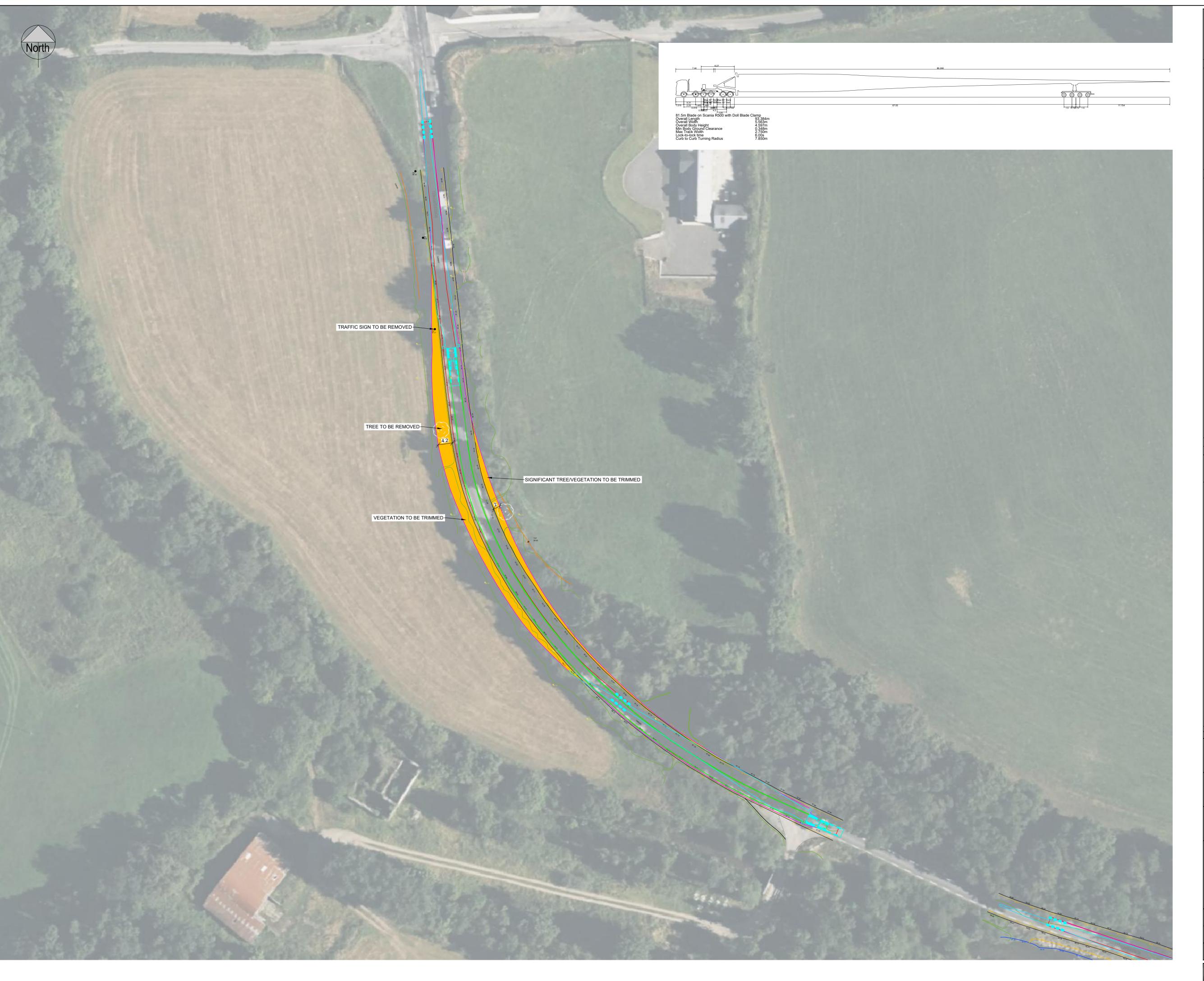
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ENGINEERING AND ENVIRONMENTAL CONSULTANTS

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23318	09/08/23		1:500
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23318 - MWP -HR- 03 -DR-C- 0118 P01



NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

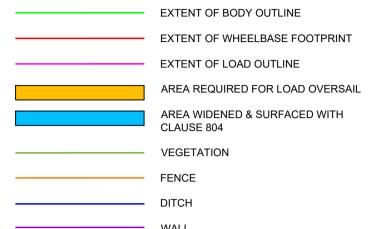
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4. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
5. DRAWINGS ARE NOT TO BE SCALED.

6. ALL DIMENSIONS ARE IN **METRES**, UNLESS NOTED OTHERWISE.

WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



REFERENCE DRAWINGS:  DRAWING No.  DRAWING TITLE  HAUL ROUTE WIDENING WORKS MASTER SHEET - FROM M7/R498 ROUNDABOUT TO BORRISOLEIGH		
23318-MWP-HR-03-DR-C-1103  HAUL ROUTE WIDENING WORKS MASTER SHEET - FROM M7/R498 ROUNDABOUT TO	REFERENCE DRAWINGS:	
23318-MWP-HR-03-DR-C-1103 MASTER SHEET - FROM M7/R498 ROUNDABOUT TO	DRAWING No.	DRAWING TITLE
	23318-MWP-HR-03-DR-C-1103	MASTER SHEET - FROM M7/R498 ROUNDABOUT TO

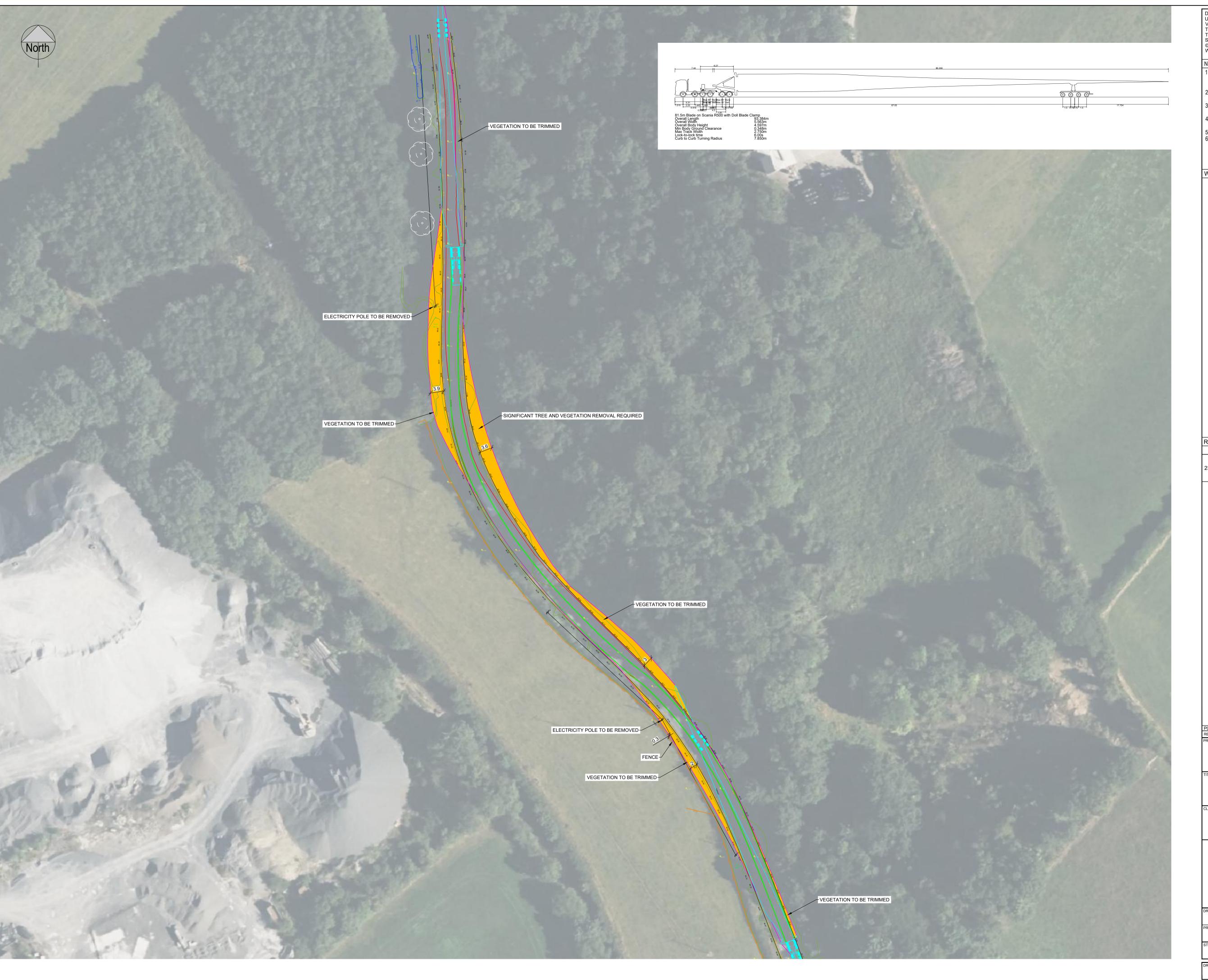
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REV	DATE	DESCRIPTION	BY	APP

## **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -R498 "S" BENDS. SHEET 5

# Orsted

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NOTES:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

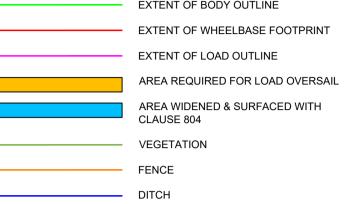
. ALL LEVELS ARE IN **METRES** RELATED TO ORDNANCE DATUM MALIN HEAD OSGM15. 3. ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR

(ITM) AND IN METERS. 4. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE

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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND EXTENT OF BODY OUTLINE

WALL



REFERENCE DRAWINGS:	
DRAWING No.	DRAWING TITLE
	HAUL ROUTE WIDENING WORKS
23318-MWP-HR-03-DR-C-1103	MASTER SHEET - FROM M7/R498
233 10-MVVF-FIK-U3-DK-C-1 1U3	ROUNDABOUT TO

**BORRISOLEIGH** 

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#### **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -R498 "S" BENDS. SHEET 6

## Orsted



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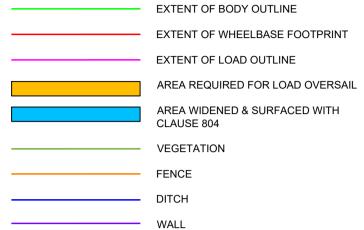


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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



	REFERENCE DRAWINGS:	
	DRAWING No.	DRAWING TITLE
		HAUL ROUTE WIDENING WORKS
		MASTER SHEET - FROM M7/R498
		ROUNDABOUT TO
		BORRISOLEIGH

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## **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -R498 "S" BENDS. SHEET 7

Orsted

CORK TRALEE LONDON LIMERICK

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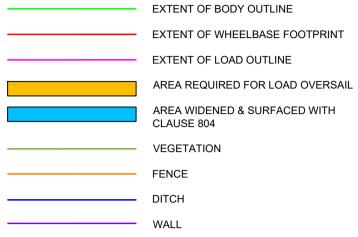
NOTES:

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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND



	REFERENCE DRAWINGS:	
	DRAWING No.	DRAWING TITLE
		HAUL ROUTE WIDENING WORKS
		MASTER SHEET - FROM M7/R498
		ROUNDABOUT TO
		BORRISOLEIGH

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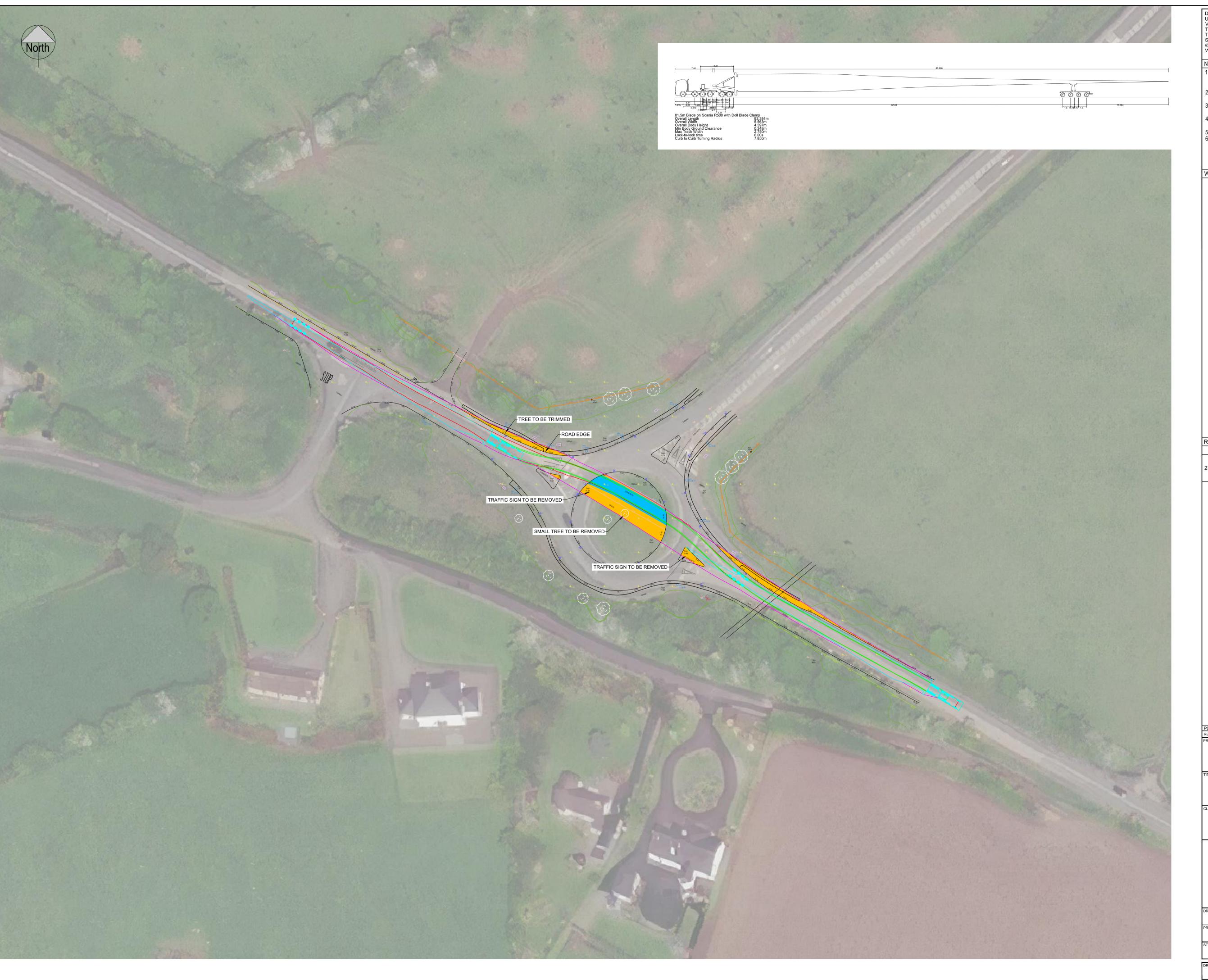
#### **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS -R498 "S" BENDS. SHEET 8

# Orsted

CORK TRALEE LONDON LIMERICK

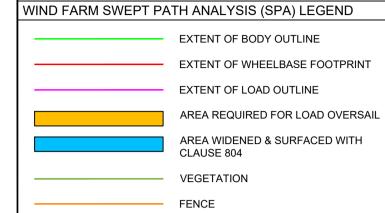
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#### NOTES:

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   DRAWINGS ARE NOT TO BE SCALED.
   ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.



REFERENCE DRAWINGS:	REFERENCE DRAWINGS:		
DRAWING No.	DRAWING TITLE		
23318-MWP-HR-03-DR-C-1103	HAUL ROUTE WIDENING WORKS MASTER SHEET - FROM M7/R498 ROUNDABOUT TO BORRISOLEIGH		

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PROJECT:				

#### **BRITTAS WIND FARM**

HAUL ROUTE WIDENING WORKS - M7/R498 ROUNDABOUT



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NOTES:

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MALIN HEAD OSGM15.
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WIND FARM SWEPT PATH ANALYSIS (SPA) LEGEND

EXTENT OF BODY OUTLINE EXTENT OF WHEELBASE FOOTPRINT

EXTENT OF LOAD OUTLINE

AREA REQUIRED FOR LOAD OVERSAIL

AREA WIDENED & SURFACED WITH CLAUSE 804

REFERENCE DRAWINGS:

DRAWING No.

DRAWING TITLE

**BRITTAS WIND FARM** 

HAUL ROUTE WIDENING WORKS -MASTER SHEET - FROM M7/R498 ROUNDABOUT TO BORRISOLEIGH

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