



## APPENDIX 15-2

*ABNORMAL LOADS  
ASSESSMENT*

## ABNORMAL LOADS ASSESSMENT



**SYSTRA**

# SLIEVEGRINE RENEWABLE ENERGY DEVELOPMENT

## ABNORMAL LOADS ASSESSMENT

### IDENTIFICATION TABLE

|                      |                                                               |
|----------------------|---------------------------------------------------------------|
| Client/Project owner | Slievegrine Ltd                                               |
| Project              | Slievegrine Renewable Energy Development                      |
| Study                | Abnormal Loads Assessment                                     |
| Type of document     | Report                                                        |
| Date                 | 27/07/2026                                                    |
| File name            | SYSTRA Slievegrine Renewable Energy Development ALA v2.0.docx |
| Reference number     | IE01T26B10/2001/ALA                                           |
| Number of pages      | 16                                                            |

### APPROVAL

| Version | Name        |               | Position          | Date       | Modifications                      |
|---------|-------------|---------------|-------------------|------------|------------------------------------|
| 1       | Author      | Thomas Foster | Consultant        | 27/07/2026 | V1                                 |
|         | Checked by  | Alan DeVenny  | Projects Director | 27/07/2026 |                                    |
|         | Approved by | Alan DeVenny  | Projects Director | 27/07/2026 |                                    |
| 2       | Author      | Thomas Foster | Consultant        | 29/09/2026 | Updated to reflect client comments |
|         | Checked by  | Alan DeVenny  | Projects Director | 29/09/2026 |                                    |
|         | Approved by | Alan DeVenny  | Projects Director | 29/09/2026 |                                    |

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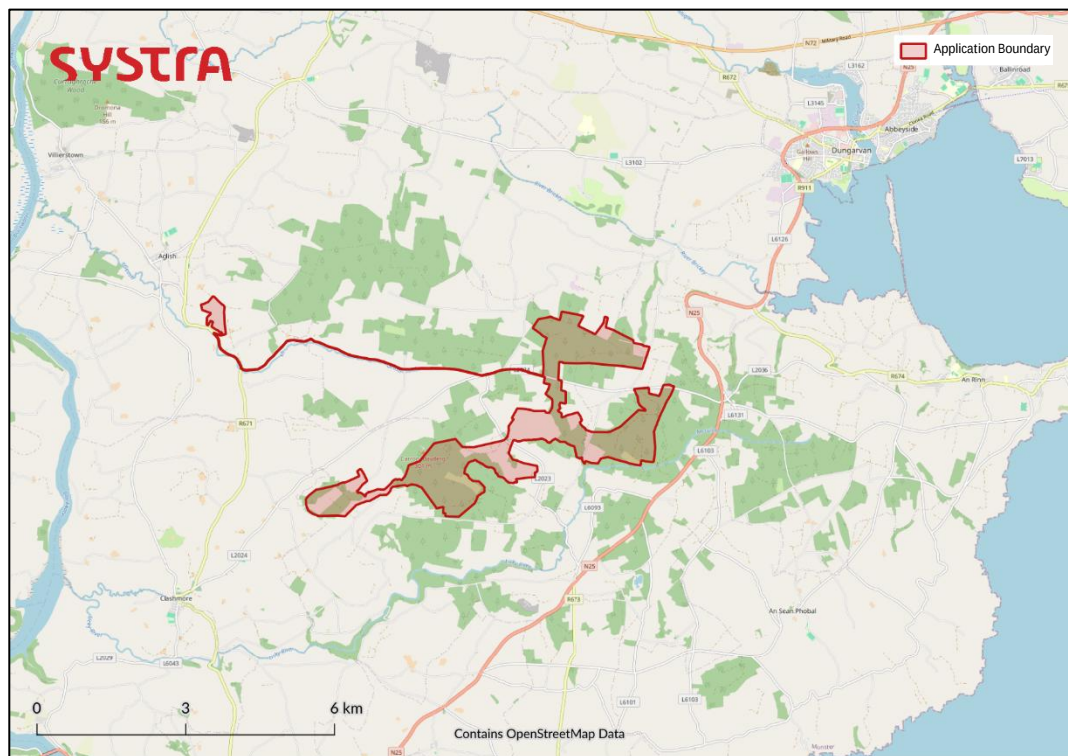
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## 1. INTRODUCTION

### 1.1 General

- 1.1.1 SYSTRA Ltd (SYSTRA) has been commissioned by Slievegrine Ltd to undertake an assessment of abnormal load access to the proposed Slievegrine Renewable Energy Development site. The site is located within the Waterford City & County Council administrative area and lies to the southwest of Dungarvan. The approximate site location is indicated by **Figure 1** below.

**Figure 1. Site Location**



- 1.1.2 The site centre is approximately 8.7km southwest of Dungarvan and 13.3km northeast of Youghal.
- 1.1.3 It is anticipated that the turbine components would be landed at the Bellview Port facility which is part of the wider Port of Waterford. SYSTRA understands that the port has previous experience with the handling of onshore wind turbine components, having served the Cushaling Wind Farm project which utilised Vestas V162 machines. This is the same turbine as the largest anticipated for the Slievegrine Renewable Energy Development site.
- 1.1.4 The purpose of this report is to examine the potential route from the Port to the site which would be used by abnormal loads carrying turbine components.

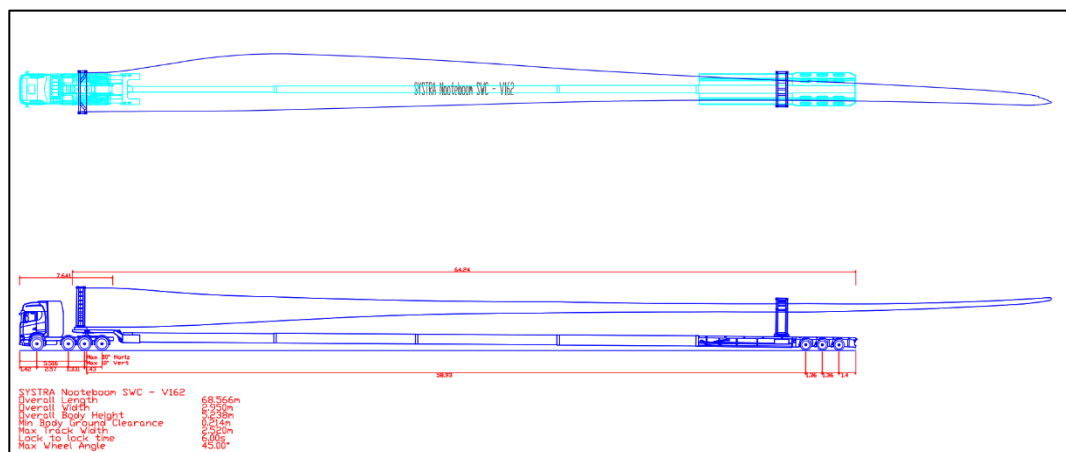
## 1.2 Turbine Transport Requirements

- 1.2.1 The chosen turbines for the Proposed Project are anticipated to be a combination of Vestas V150 and V162 machines at three different tip heights. The V162 rotor blade has a longer length than that of the V150 at 79.35m (when transported). The turbine blade has been assessed as the “worst-case” design component.

### Standard Blade Transporter

- 1.2.2 For the purposes of this assessment, it has been assumed that the Turbine Delivery Vehicle (TDV) would compose of a tractor unit and a Nootboom Super Wing Carrier Trailer.
- 1.2.3 The Super Wing Trailer incorporates pendle axles which allow for a secondary rear wheel steering angle of up to 60 degrees. These axles can be manually controlled to give greater manoeuvrability. However, SYSTRA understands that utilising the manual rear steering introduces an additional degree of complexity and delay. Therefore, it has only been utilised in this assessment where necessary or beneficial, i.e. allowing street furniture or third-party land to be avoided or enabling overrun areas to be reduced in size or their requirement removed altogether. Where it has been used this has been marked in the title box of the relevant drawing sheet.
- 1.2.4 The Super Wing trailer can be extended to 64.3m in length. For this assessment it has been assumed that the trailer would be extended to its full length. This assumption is based on the loading configuration of other wind turbine blade components and specifications from Vestas. In total the TDV is ~68.6m in length. The turbine blade would overhang the end of the trailer by ~16.0 for a total length of 84.6m.
- 1.2.5 A drawing of the TDV is provided in **Appendix A** as drawing *IE01T26B10/2001/VEH001* and at **Figure 2** below.

**Figure 2. Turbine Delivery Vehicle**

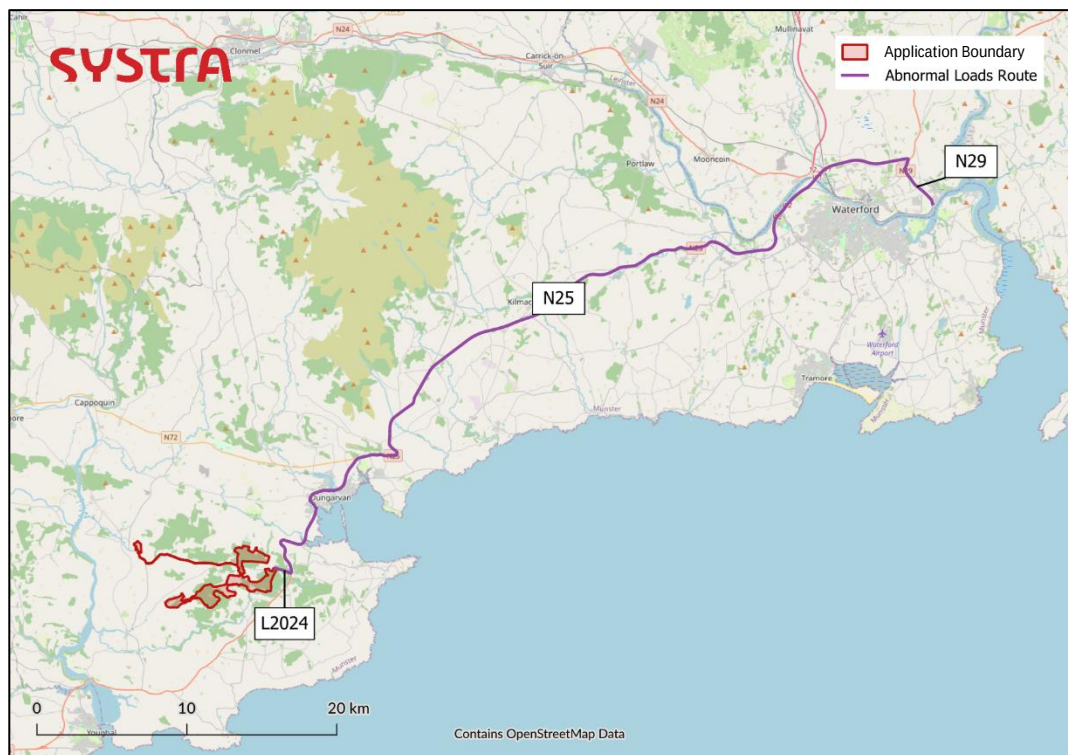


- 1.2.6 At this stage in the design process, the haulier of the wind turbine components is not yet known, nor the exact specifics of the vehicles that they will use. However, from experience of previous developments, and from the details of the components to be moved, it is possible to estimate (with some degree of accuracy) the specifics of the design vehicles that will be used to allow a detailed and accurate route assessment to be undertaken.
- 1.2.7 SYSTRA has used the Autodesk (CAD) extension package AutoTrack to undertake swept path analysis (SPA) for the identified Pinch Points (PP) on the delivery route. The trailer units associated with the design vehicles for the transportation of the blades are extendable so on delivery of the abnormal load, the trailers can be reduced in length. In these circumstances, the AutoTracking and route assessment has only been undertaken for the delivery route to the site.

## 1.3 Assessed Abnormal Loads Route

- 1.3.1 The Port of Entry for the turbine components is anticipated to be the Port of Waterford. Components are anticipated to exit the port via Belview Port Road and then proceed to site on the public road network. The assessed route to site is indicated by **Figure 3** below.

**Figure 3. Assessed Abnormal Loads Route**



- 1.3.2 The identified abnormal load route sections for the turbine components are set out in **Table 1** below.

**Table 1. Delivery Route Sections**

| SECTION                                                                | CUMULATIVE DISTANCE (KM) |
|------------------------------------------------------------------------|--------------------------|
| Leave the Bellview Port via Belview Port Road (N29)                    | 0.0                      |
| At the Slieverue Roundabout continue straight to stay on N29           | 2.9                      |
| At Luffany Roundabout turn left onto the N25                           | 3.7                      |
| Comply by roundabouts, particularly those in Dungarvan, to stay on N29 | -                        |
| Turn right onto the L2024                                              | 62.7                     |
| Turn left into the site access                                         | 63.8                     |

## 2. SWEPT PATH ASSESSMENT

### 2.1 Pinch Points

- 2.1.1 A total of 16 no. Pinch Points have been identified on the assessed route from Port to Site. The locations of the Pinch Points that have been identified and assessed are indicated by **Figures 4 to 8** below.

**Figure 4. Pinch Points at Port of Waterford**

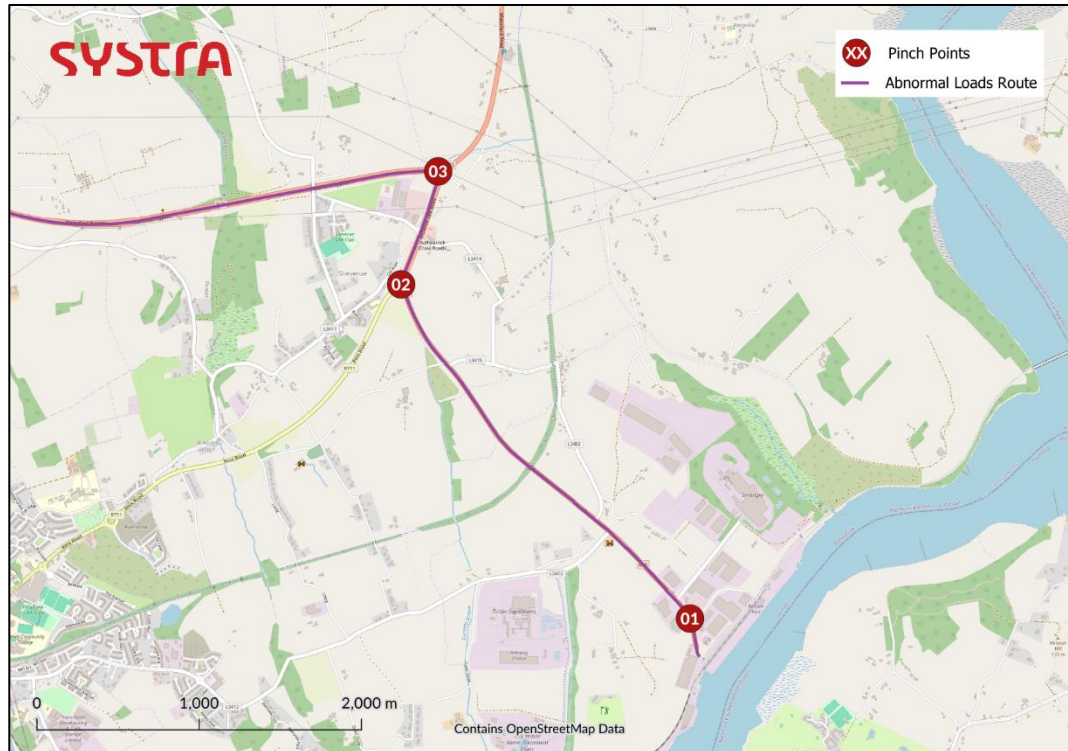


**Figure 5. Pinch Points North of Kilmeadan**

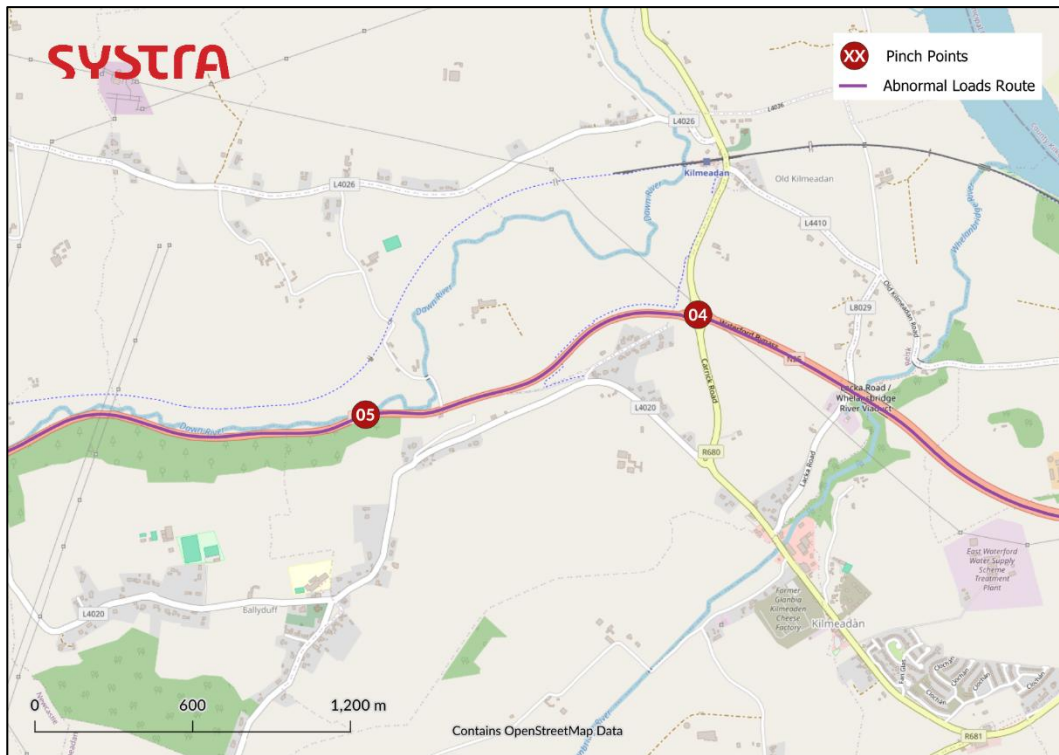


**Figure 6. Pinch Points Northeast of Dungarvan**

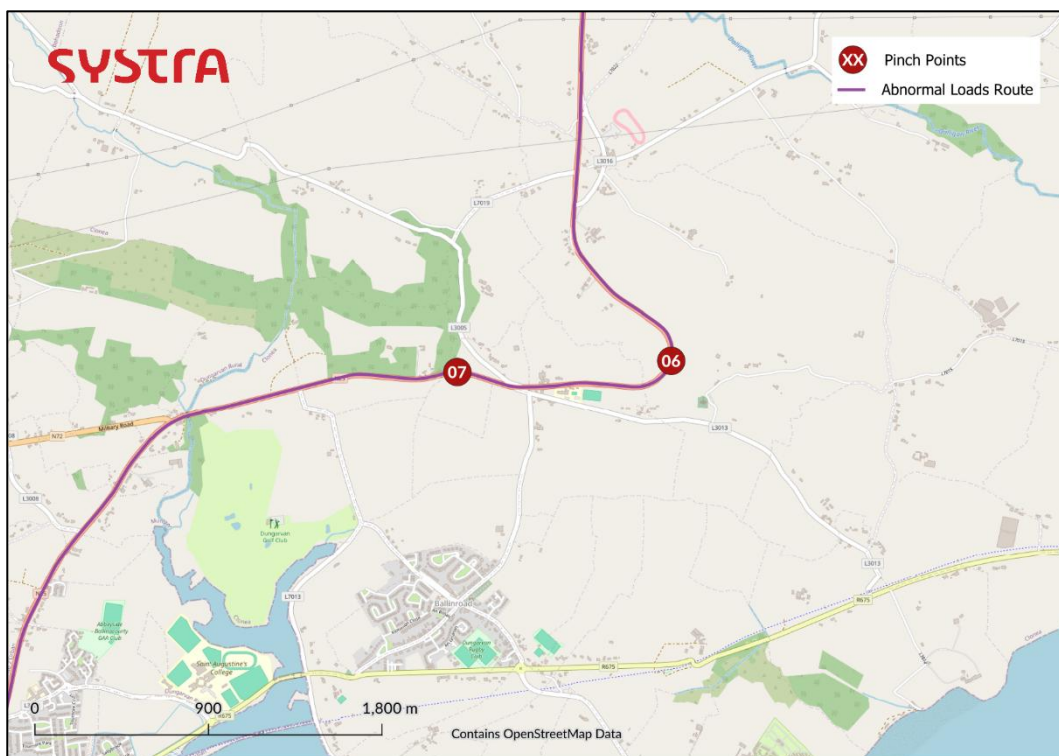


**Figure 7. Pinch Points in Dungarvan**

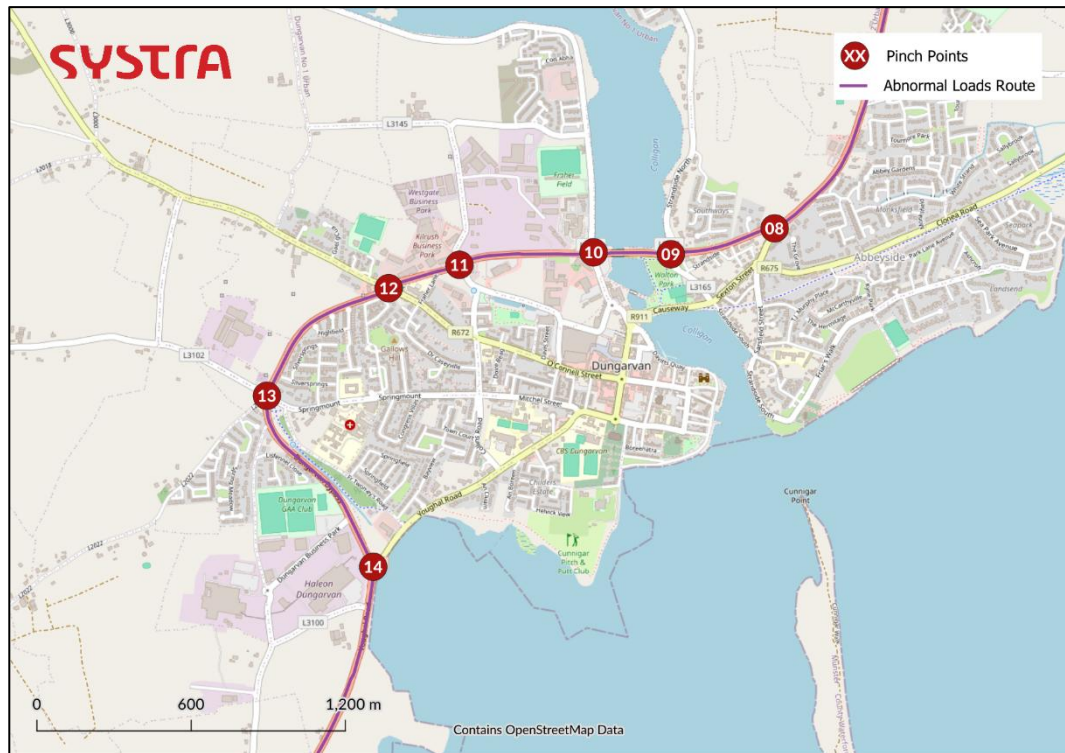
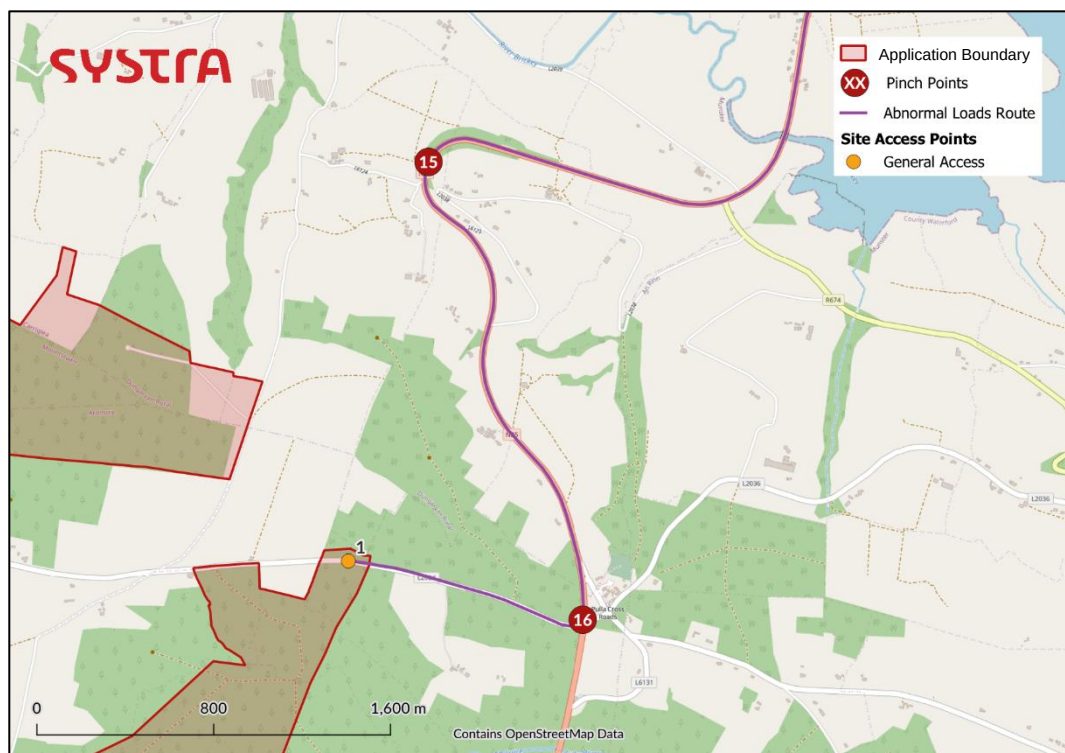


**Figure 8. Pinch Points Near Site Access**



- 2.1.2 The swept path plans for the blade are contained within **Appendix A**. The plans indicate areas of overrun and over-sail, as well as highlighting potential clashes with street furniture and requirements for third-party land.
- 2.1.3 **Table 2** summarises the findings for the transportation of the blade component on the assessed route.

Table 2. Pinch Point Summary

| PP | LOCATION                                                      | LAT       | LONG      | STREET FURNITURE REMOVAL                                                                                                                 | TEMPORARY PAVING / GRADING WORKS                                                                                                                                     | 3RD PARTY LAND REQUIREMENTS                                        |
|----|---------------------------------------------------------------|-----------|-----------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| 01 | Left-hand bend in Belview Port Road                           | 52.266180 | -7.037721 | <ul style="list-style-type: none"> <li>Overhead line heights should be checked on site</li> </ul>                                        | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 02 | Straight-ahead at Slieverue Roundabout                        | 52.284620 | -7.063810 | <ul style="list-style-type: none"> <li>9no. road signs</li> <li>2no. lighting columns</li> <li>Section of central reservation</li> </ul> | <ul style="list-style-type: none"> <li>Transition ramps may be required to mount kerb</li> <li>Use of existing hardstanding area</li> </ul>                          | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 03 | Left-hand turn at Luffany Roundabout                          | 52.290857 | -7.060461 | <ul style="list-style-type: none"> <li>6no. road signs</li> <li>1no. lighting column</li> <li>Section of central reservation</li> </ul>  | <ul style="list-style-type: none"> <li>Transition ramps may be required to mount kerb</li> <li>Use of existing hardstanding area</li> </ul>                          | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 04 | Straight-ahead at Carrick Road Roundabout                     | 52.241577 | -7.247802 | <ul style="list-style-type: none"> <li>Overhead line height should be checked on site</li> </ul>                                         | <ul style="list-style-type: none"> <li>Temporary hardstanding to be laid in roundabout island</li> </ul>                                                             | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 05 | Bends in N25 north of Ballyduff                               | 52.238168 | -7.266313 | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                   | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 06 | Continuous left-hand bend in N25 northeast of Ballinroad      | 52.115514 | -7.556647 | <ul style="list-style-type: none"> <li>Overhead line heights should be checked on site</li> </ul>                                        | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 07 | Bend in N25 north of Ballinroad                               | 52.114997 | -7.572840 | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                   | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 08 | Straight-ahead at N25 / R911 roundabout                       | 52.094522 | -7.612358 | <ul style="list-style-type: none"> <li>2no. lighting columns</li> <li>1no. road sign</li> </ul>                                          | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 09 | Straight-ahead at N25 / L3162 / L3165 roundabout              | 52.093620 | -7.618248 | <ul style="list-style-type: none"> <li>1no. road sign</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Temporary hardstanding to be laid in roundabout island</li> </ul>                                                             | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 10 | Straight-ahead at N25 / L3147 / Shandon roundabout            | 52.093687 | -7.622633 | <ul style="list-style-type: none"> <li>1no. road sign</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Temporary hardstanding to be laid in roundabout island</li> </ul>                                                             | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 11 | Straight-ahead at N25 / L3145 / John Treacy Street roundabout | 52.093253 | -7.630244 | <ul style="list-style-type: none"> <li>4no. road signs</li> <li>1no. bollard</li> </ul>                                                  | <ul style="list-style-type: none"> <li>Temporary hardstanding to be laid in roundabout island</li> </ul>                                                             | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 12 | Straight-ahead at N25 / R672 roundabout                       | 52.092437 | -7.634254 | <ul style="list-style-type: none"> <li>5no. road signs</li> <li>1no. lighting column</li> <li>1no. bollard</li> </ul>                    | <ul style="list-style-type: none"> <li>Temporary hardstanding to be laid in roundabout island</li> <li>Geometric alteration to roundabout island required</li> </ul> | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 13 | Straight-ahead at N25 / L3102 roundabout                      | 52.088689 | -7.641167 | <ul style="list-style-type: none"> <li>4no. road signs</li> </ul>                                                                        | <ul style="list-style-type: none"> <li>Temporary hardstanding to be laid in roundabout island</li> </ul>                                                             | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 14 | Straight-ahead at N25 / N911 roundabout                       | 52.082728 | -7.635134 | <ul style="list-style-type: none"> <li>2no. road signs</li> </ul>                                                                        | <ul style="list-style-type: none"> <li>Temporary hardstanding to be laid in roundabout island</li> </ul>                                                             | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 15 | Continuous left-hand bend in N25                              | 52.063131 | -7.669271 | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                   | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |
| 16 | Right-hand turn onto L2024                                    | 52.044563 | -7.659100 | <ul style="list-style-type: none"> <li>5no. road signs</li> <li>1no. bollard</li> <li>1no. electrical transmission column</li> </ul>     | <ul style="list-style-type: none"> <li>Temporary Load bearing mats to be laid in verges</li> </ul>                                                                   | <ul style="list-style-type: none"> <li>None anticipated</li> </ul> |

### 3. ASSESSMENT OUTCOMES AND CONCLUSIONS

#### 3.1 Horizontal Feasibility

3.1.1 The abnormal load assessment has identified that the route from the Port of Waterford to the site is technically feasible in terms of horizontal geometry. Successful navigation of the route is not anticipated to be dependent upon third-party land agreements, although land checks are still recommended. The mitigation required generally comprises of street furniture removal and temporary running surfaces in roundabout islands.

3.1.2 The movement of abnormal loads transporting the Vestas V162 blade component has already been proven for the first three Pinch Points by the operational Cushaling Wind Farm.

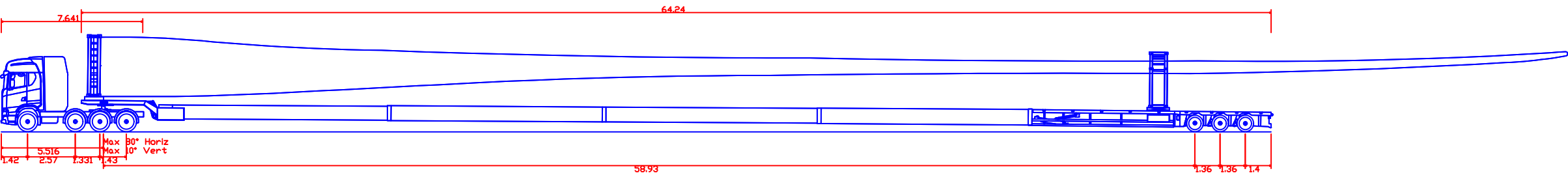
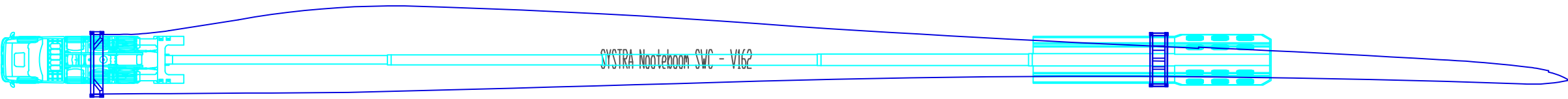
#### 3.2 Summary

3.2.1 In the first instance, it is recommended that third-party land enquiries are made at the identified locations. It is also recommended that further engagement is undertaken with the Port of Waterford, TII, SouthLink N25 (who operate the Suir Bridge & Toll Plaza on the N25), and Waterford City & County Council.

3.2.2 Additionally, the following points should also be considered:

- If the necessary mitigation measures are achievable then the route can be navigated by vehicles carrying wind turbine components to the proposed site subject to confirmation of structural checks;
- Gardaí escort or Pilot car will be required to accompany abnormal loads in order to assist with traffic control and the control of oncoming traffic, particularly where full carriageway widths are required;
- It is recommended to have adequate warning signs implemented to warn other road users at critical points along the route;
- All hedges, shrubs, bushes, trees and overhanging branches along the nominated route must be trimmed from within carriageway verges;
- Specific street furniture has been nominated in this report for removal to facilitate over-sailed and 'swept' areas;
- Full carriageway widths must be available along the entirety of the route. Measures to remove parked vehicles must therefore be in place;
- It is recommended that contact is made with the council's structures team to identify any structures of concern along the delivery route that would necessitate structural survey work;
- Measures to assist the vehicle negotiating the kerbed changes in level at footways, roundabouts, pedestrian refuges etc. will be required; and
- Steel road plates may be required at locations where the vehicle overruns utility boxes or footways.

## Appendix A – TDV Drawing and Swept Path Assessment



SYSTRA Nootboom SWC - V162  
Overall Length 68.566m  
Overall Width 2.950m  
Overall Body Height 2.238m  
Min Body Ground Clearance 0.214m  
Max Track Width 2.520m  
Lock to lock time 6.00s  
Max Wheel Angle 45.00°

- Notes:
1. Do not scale from drawing.
  2. All dimensions in metres unless otherwise stated.
  3. Please note that marked service locations are indicative only and should be confirmed by topographical survey.



- Key:
- Blade Transporter Vehicle
  - Blade Outline

| Rev. | Date | Revision details | Drawn | Checked | Approved |
|------|------|------------------|-------|---------|----------|
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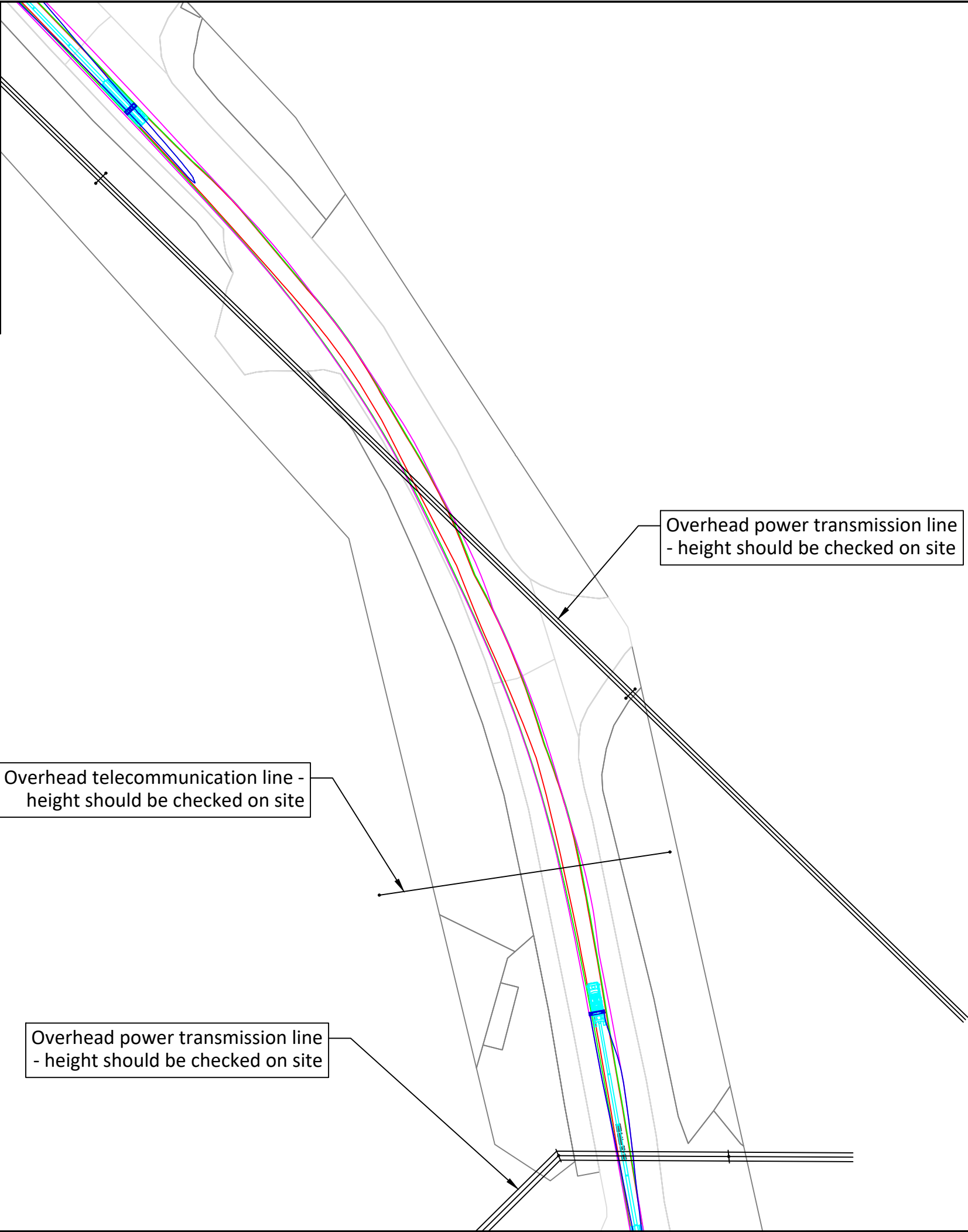
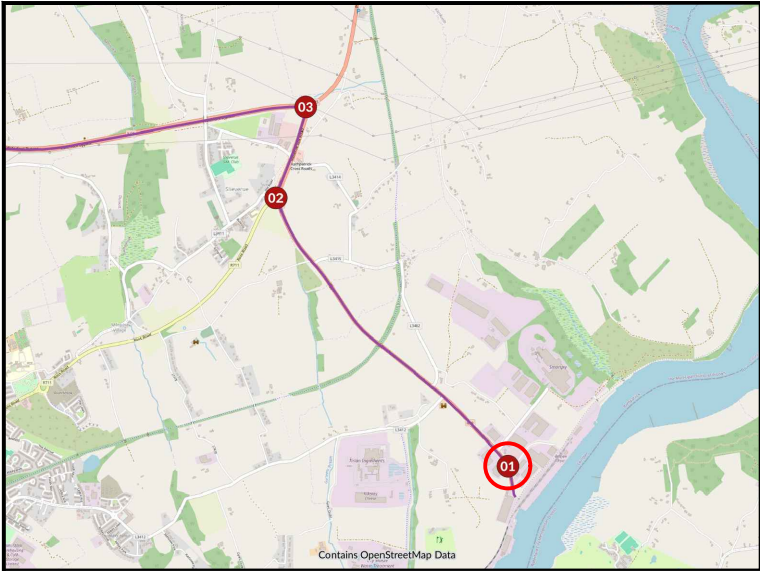
T 0131 460 1847  
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Client  
Slievegrine Ltd

Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nootboom Super Wing Carrier  
Indicative Loading Configuration

|                               |                                             |                 |
|-------------------------------|---------------------------------------------|-----------------|
| Drawn<br>TF                   | Checked<br>ADV                              | Approved<br>ADV |
| Original dwg. size<br>A3      | Date<br>29/09/2026                          | Scale<br>NTS    |
| Drawing Status<br>Information | Drawing Number<br>IE01T26B10/2001/II/VEH001 | Rev.<br>-       |



Notes:

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Key:

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

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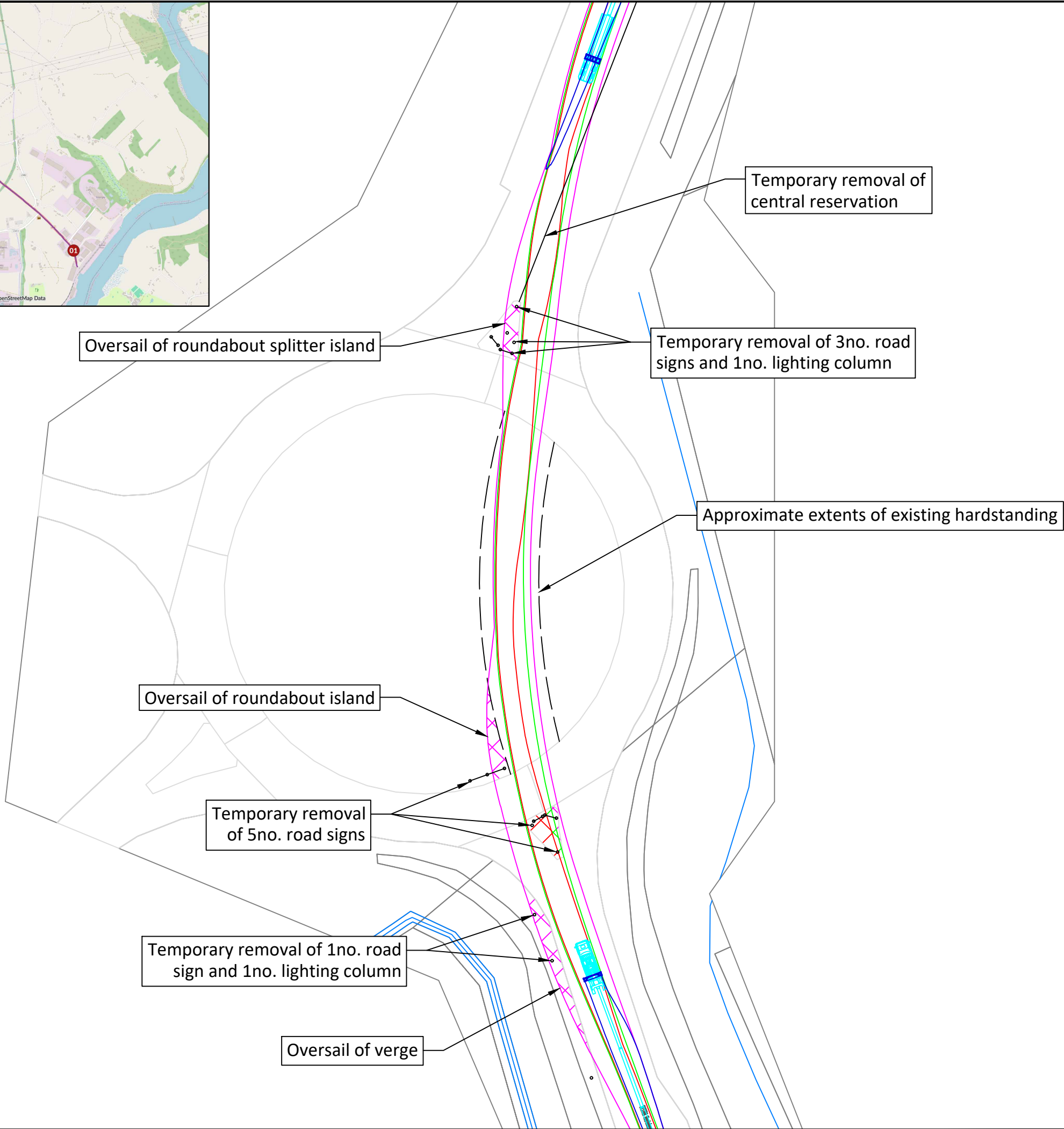
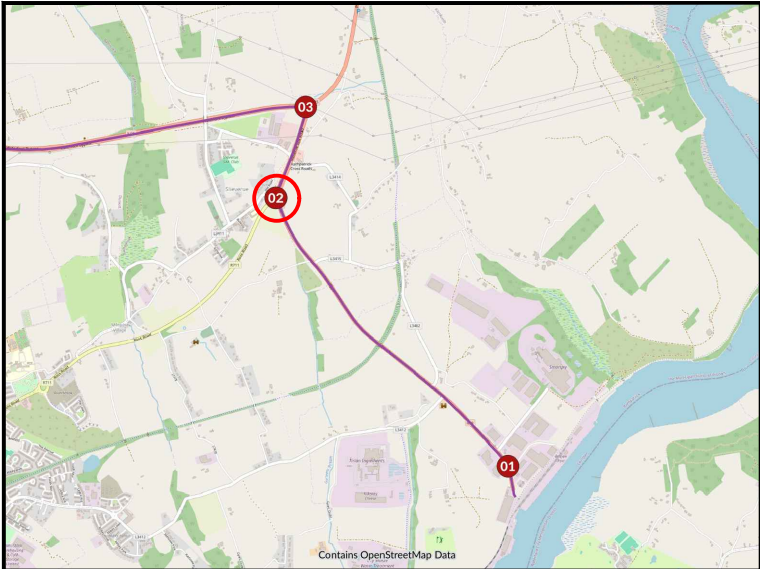
Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 01

|                               |                    |                 |
|-------------------------------|--------------------|-----------------|
| Drawn<br>TF                   | Checked<br>ADV     | Approved<br>ADV |
| Original dwg. size<br>A3      | Date<br>29/09/2026 | Scale<br>1:1000 |
| Drawing Status<br>Information |                    | Rev.<br>-       |

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Information



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  - Over-sail area of tractor and trailer bed out with carriageway
  - Over-sail area of blade out with carriageway

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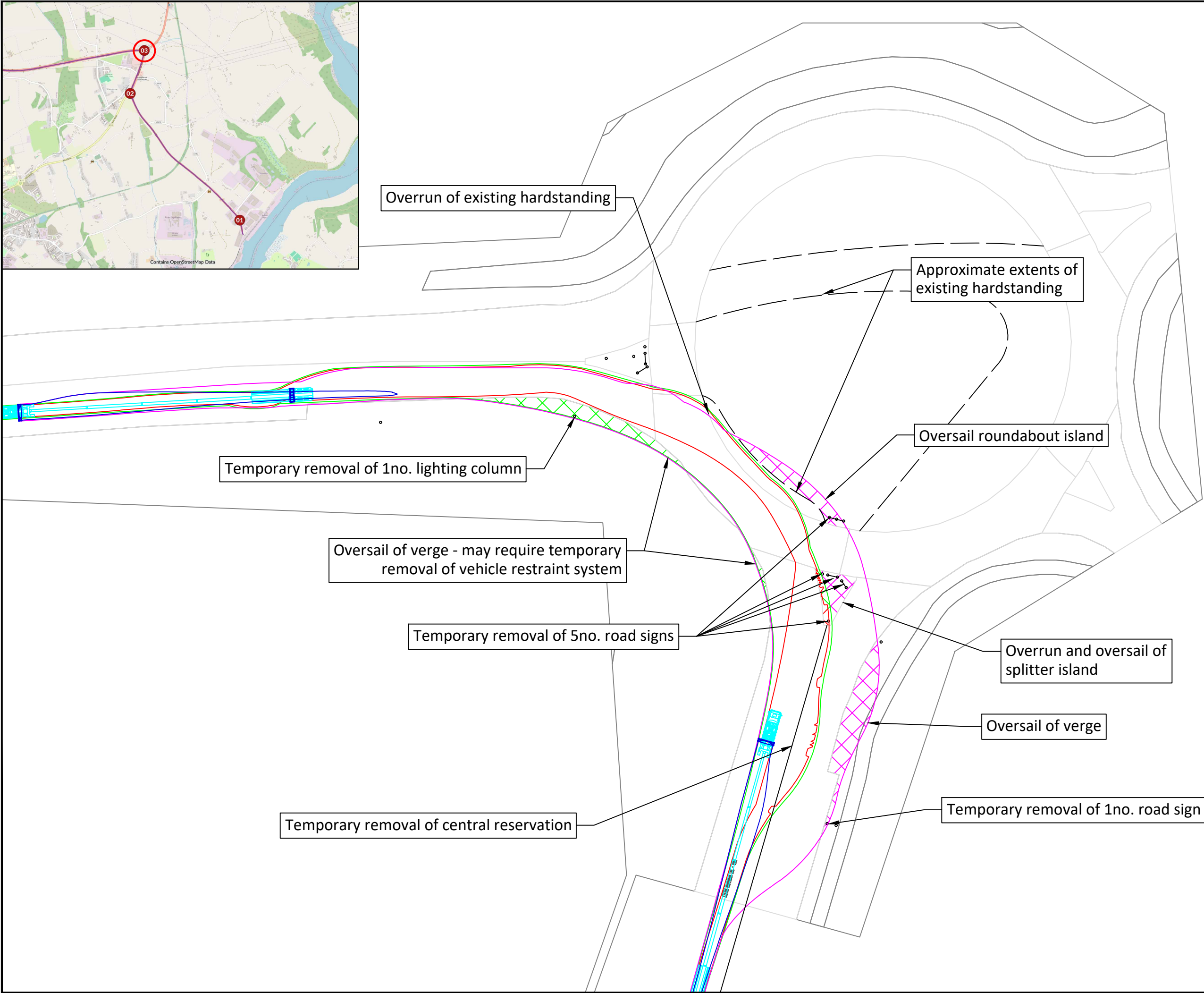
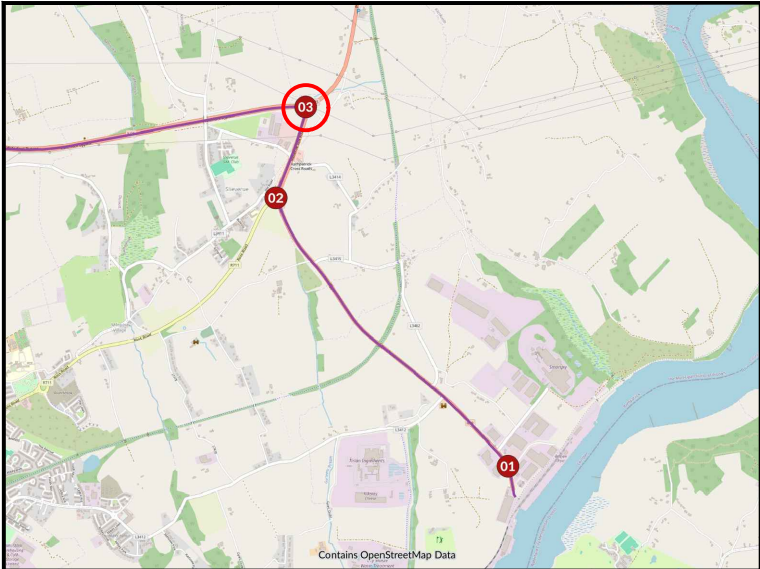
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Client  
Slievegrine Ltd

Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 02

|                               |                                            |                 |
|-------------------------------|--------------------------------------------|-----------------|
| Drawn<br>TF                   | Checked<br>ADV                             | Approved<br>ADV |
| Original dtd. size<br>A3      | Date<br>29/09/2026                         | Scale<br>1:750  |
| Drawing Status<br>Information | Drawing Number<br>IE01T26B10/2001/1/ALA002 | Rev.<br>-       |



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  - Over-run area of tractor and trailer wheels out with carriageway
  - Over-sail area of tractor and trailer bed out with carriageway
  - Over-sail area of blade out with carriageway

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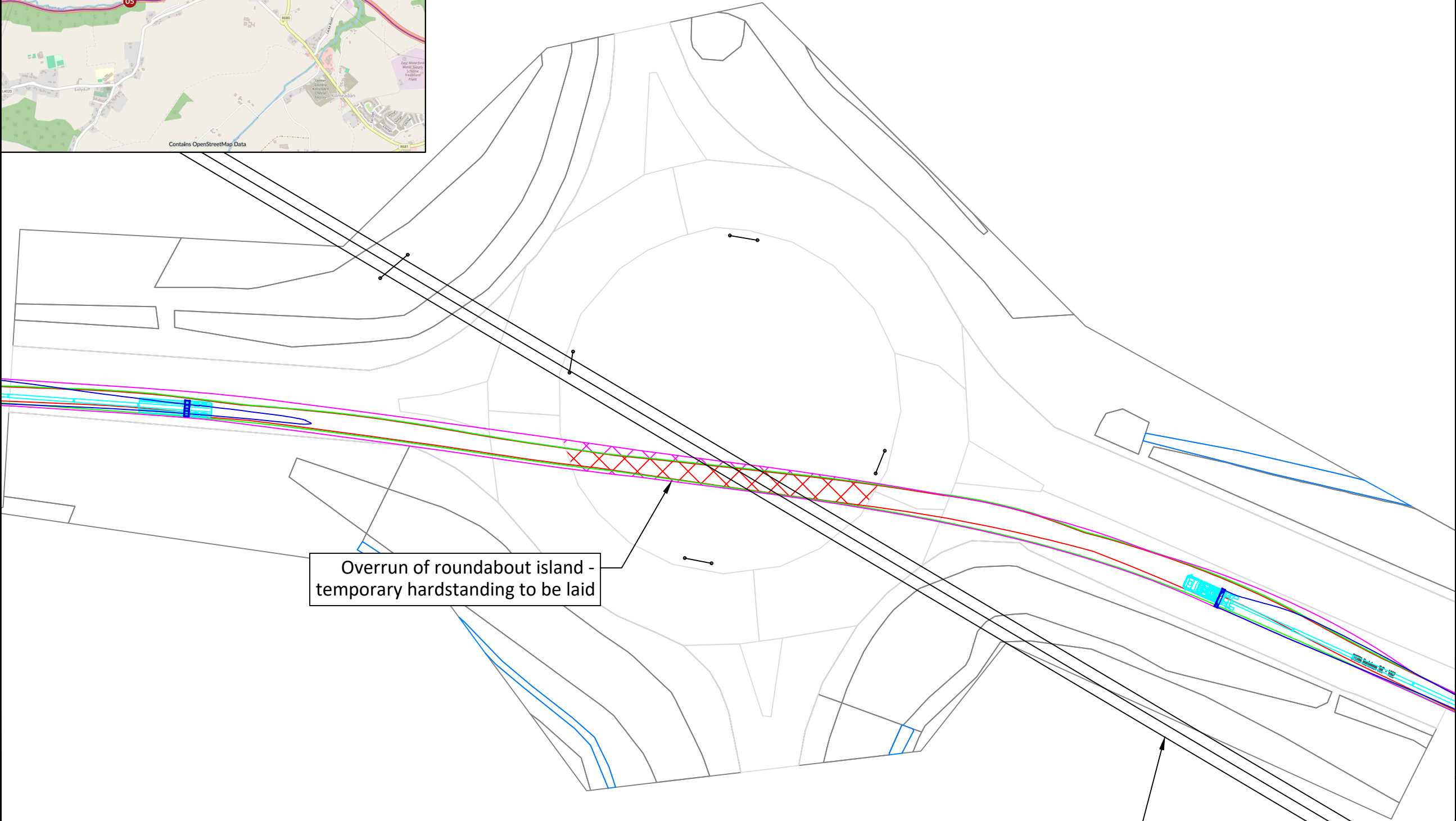
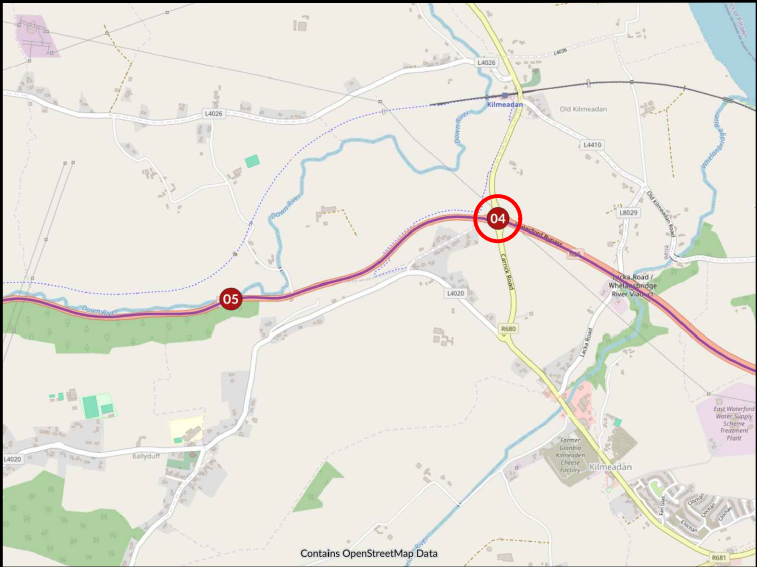
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E scotland@systra.co.uk

Client  
Slievegrine Ltd

Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 03

|                               |                                            |                 |
|-------------------------------|--------------------------------------------|-----------------|
| Drawn<br>TF                   | Checked<br>ADV                             | Approved<br>ADV |
| Original dwg. size<br>A3      | Date<br>29/09/2026                         | Scale<br>1:750  |
| Drawing Status<br>Information | Drawing Number<br>IE01T26B10/2001/1/ALA003 | Rev.<br>-       |



Overrun of roundabout island -  
temporary hardstanding to be laid

Overhead power transmission lines  
- height should be checked on site

**Notes:**

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- All dimensions in metres unless otherwise stated.
- Please note that marked service locations are indicative only and should be confirmed by topographical survey.

**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
|------|------|------------------|-------|---------|----------|
|      |      |                  |       |         |          |

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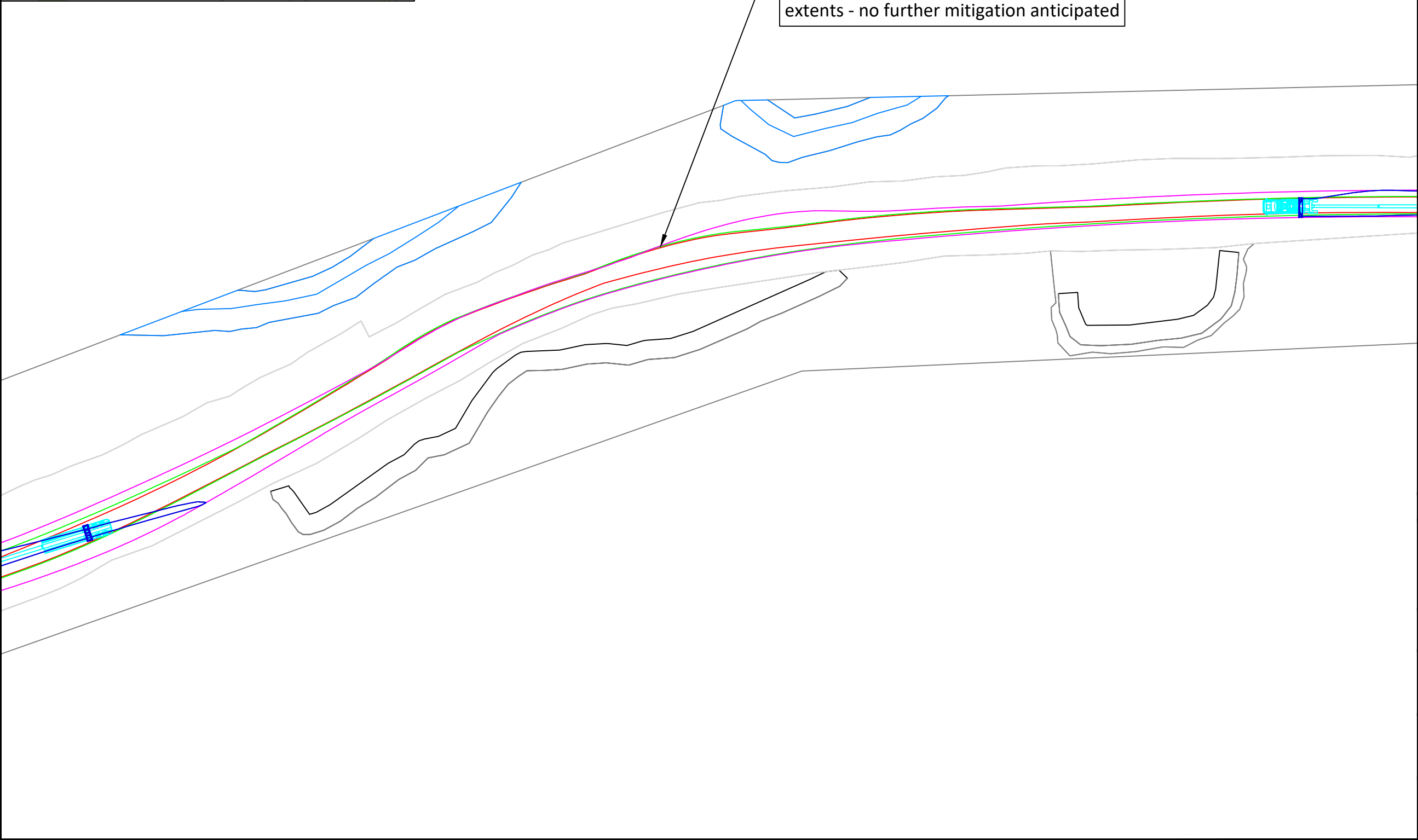
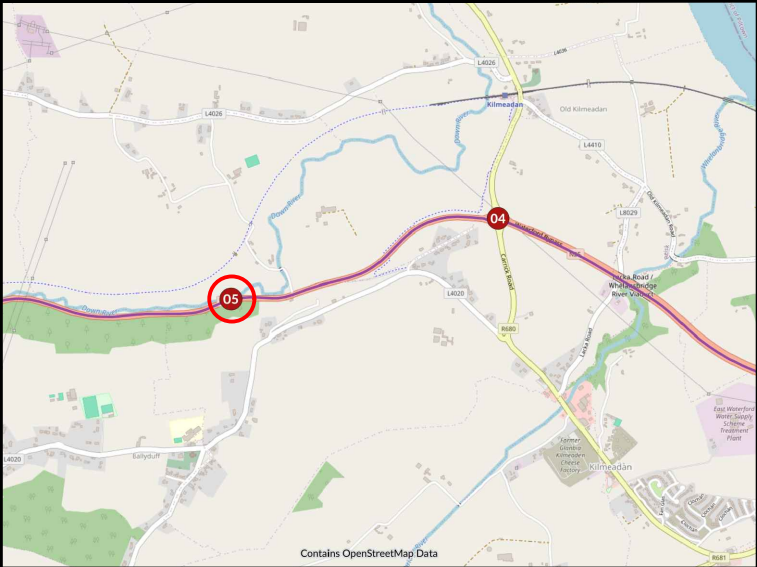
Project

Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title

Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 04

| Drawn              | Checked                  | Approved |
|--------------------|--------------------------|----------|
| TF                 | ADV                      | ADV      |
| Original dwg. size | Date                     | Scale    |
| A3                 | 29/09/2026               | 1:750    |
| Drawing Status     | Drawing Number           | Rev.     |
| Information        | IE01T26B10/2001/1/ALA004 | -        |



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**Key:**

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- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

|      |      |                  |       |         |          |
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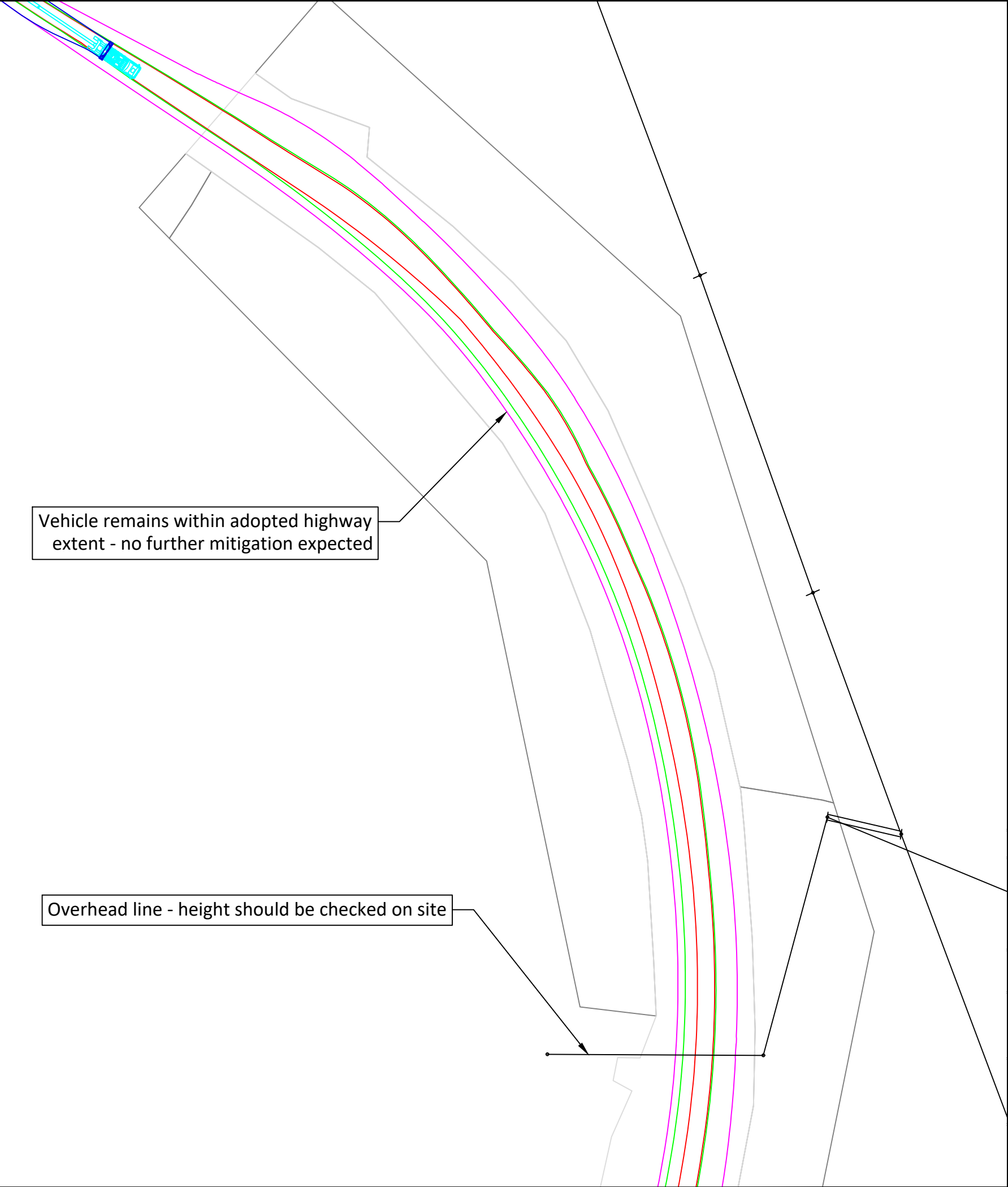
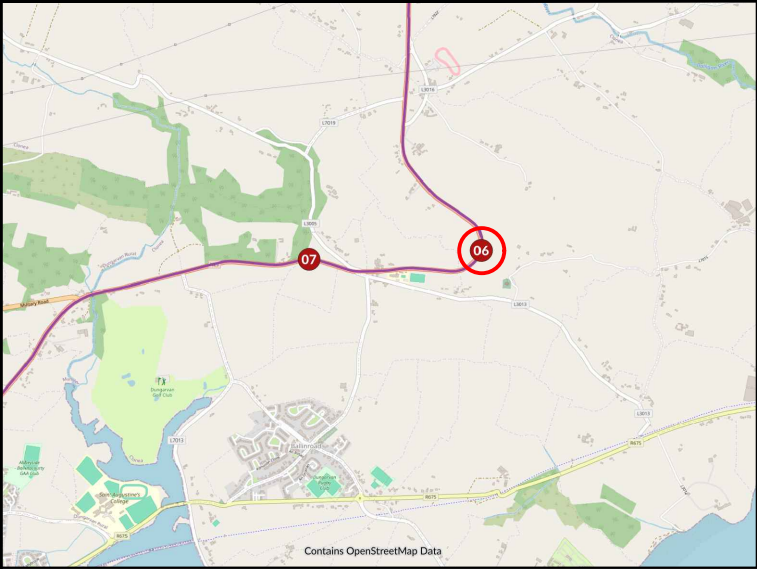
Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 05

|                               |                    |                 |
|-------------------------------|--------------------|-----------------|
| Drawn<br>TF                   | Checked<br>ADV     | Approved<br>ADV |
| Original dwg. size<br>A3      | Date<br>29/09/2026 | Scale<br>1:750  |
| Drawing Status<br>Information |                    | Rev.<br>-       |

Drawing Number  
IE01T26B10/2001/1/ALA005

Rev.  
-



**Notes:**

1. Do not scale from drawing.
2. All dimensions in metres unless otherwise stated.
3. Please note that marked service locations are indicative only and should be confirmed by topographical survey.

**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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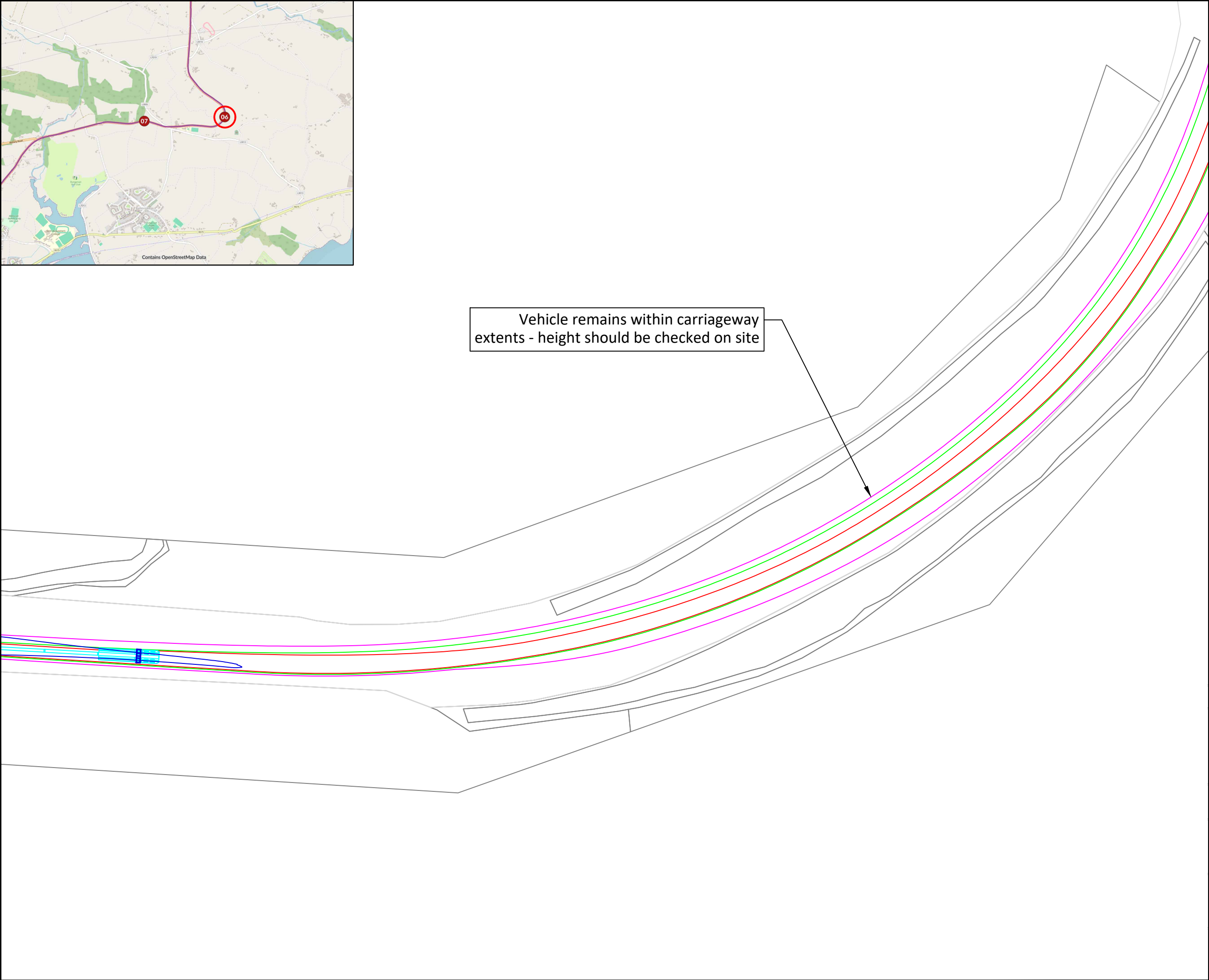
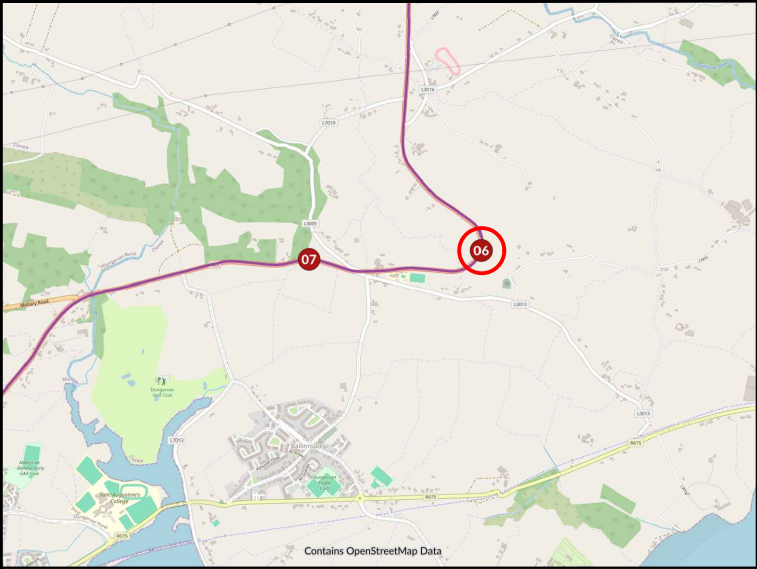
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Client  
Slievegrine Ltd

Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 06 - Sheet 1 of 2

| Drawn                         | Checked                                    | Approved       |
|-------------------------------|--------------------------------------------|----------------|
| TF                            | ADV                                        | ADV            |
| Original dtp. size<br>A3      | Date<br>29/09/2026                         | Scale<br>1:750 |
| Drawing Status<br>Information | Drawing Number<br>IE01T26B10/2001/1/ALA006 | Rev.<br>-      |



**Notes:**

- Do not scale from drawing.
- All dimensions in metres unless otherwise stated.
- Please note that marked service locations are indicative only and should be confirmed by topographical survey.

**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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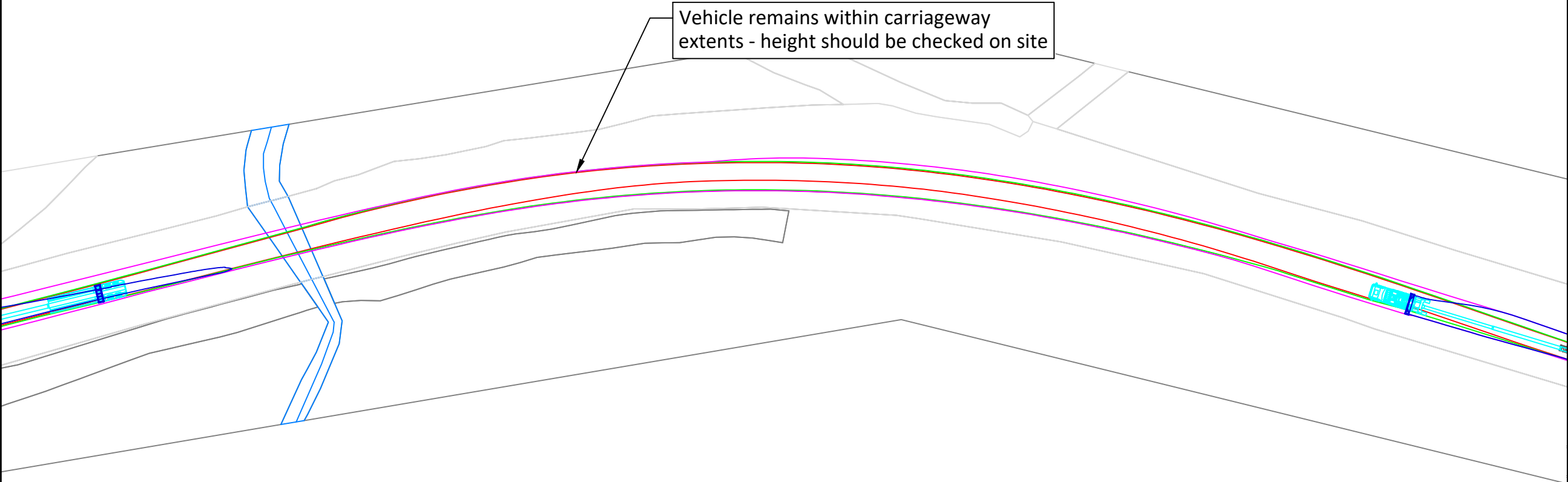
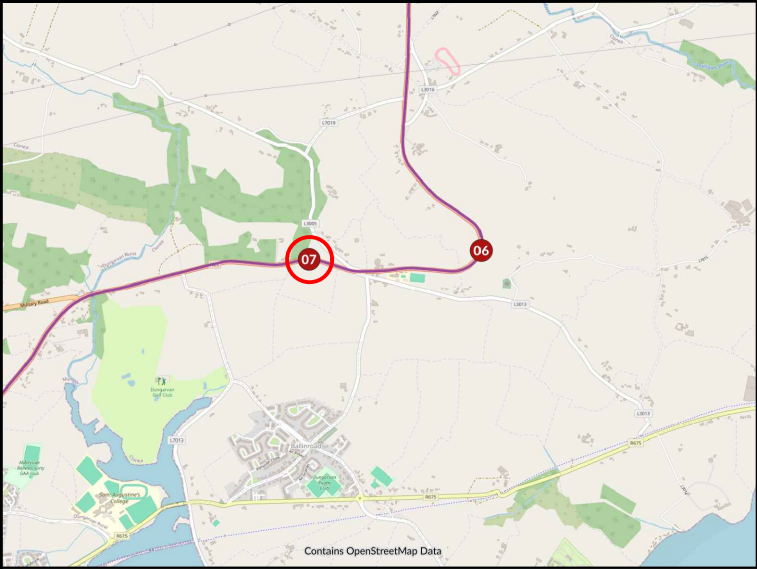
Project

Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title

Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 06 - Sheet 2 of 2

| Drawn              | Checked                  | Approved |
|--------------------|--------------------------|----------|
| TF                 | ADV                      | ADV      |
| Original dtd. size | Date                     | Scale    |
| A3                 | 29/09/2026               | 1:750    |
| Drawing Status     | Drawing Number           | Rev.     |
| Information        | IE01T26B10/2001/1/ALA007 | -        |



**Notes:**

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**Key:**

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- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

|      |      |                  |       |         |          |
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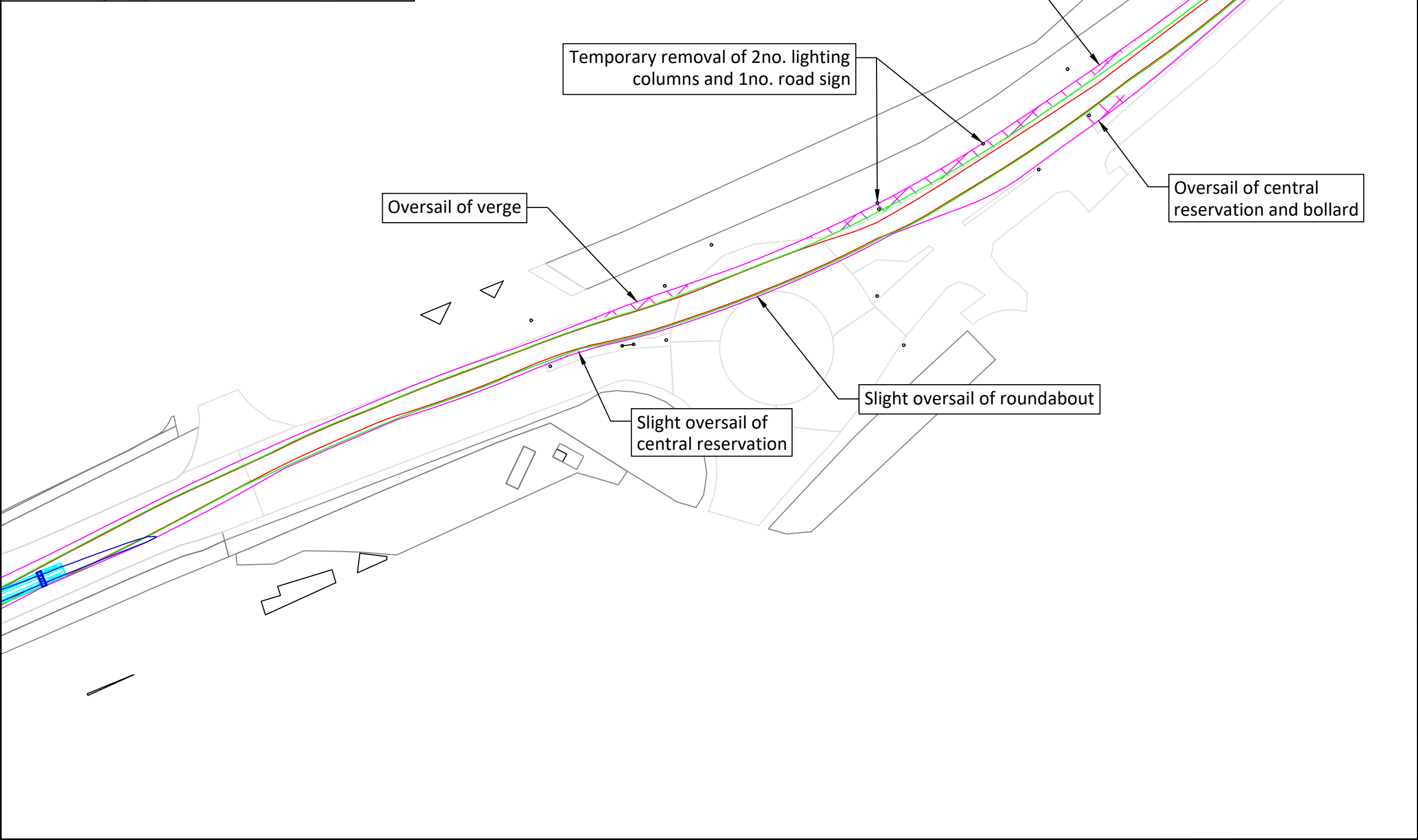
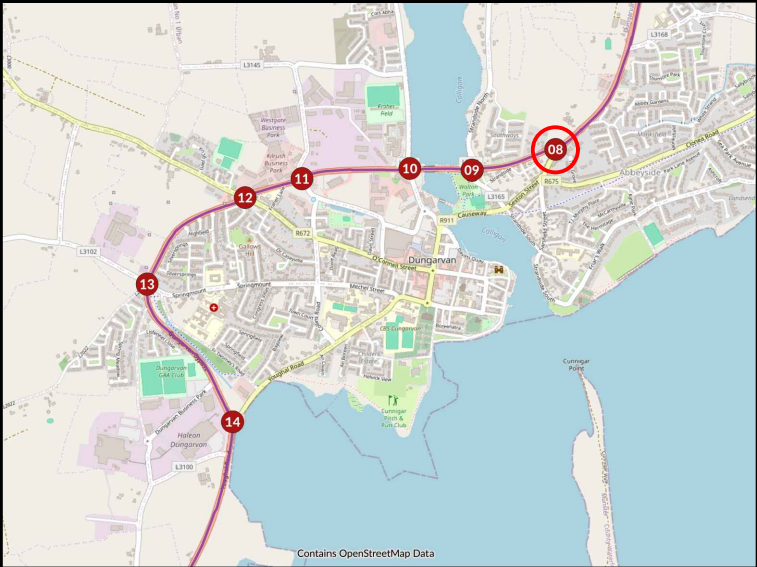
Project

Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title

Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 07

|                    |             |         |                |                          |       |
|--------------------|-------------|---------|----------------|--------------------------|-------|
| Drawn              | TF          | Checked | ADV            | Approved                 | ADV   |
| Original dwg. size | A3          | Date    | 29/09/2026     | Scale                    | 1:750 |
| Drawing Status     | Information |         | Drawing Number | IE01T26B10/2001/1/ALA008 | Rev.  |
|                    |             |         |                |                          | -     |



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**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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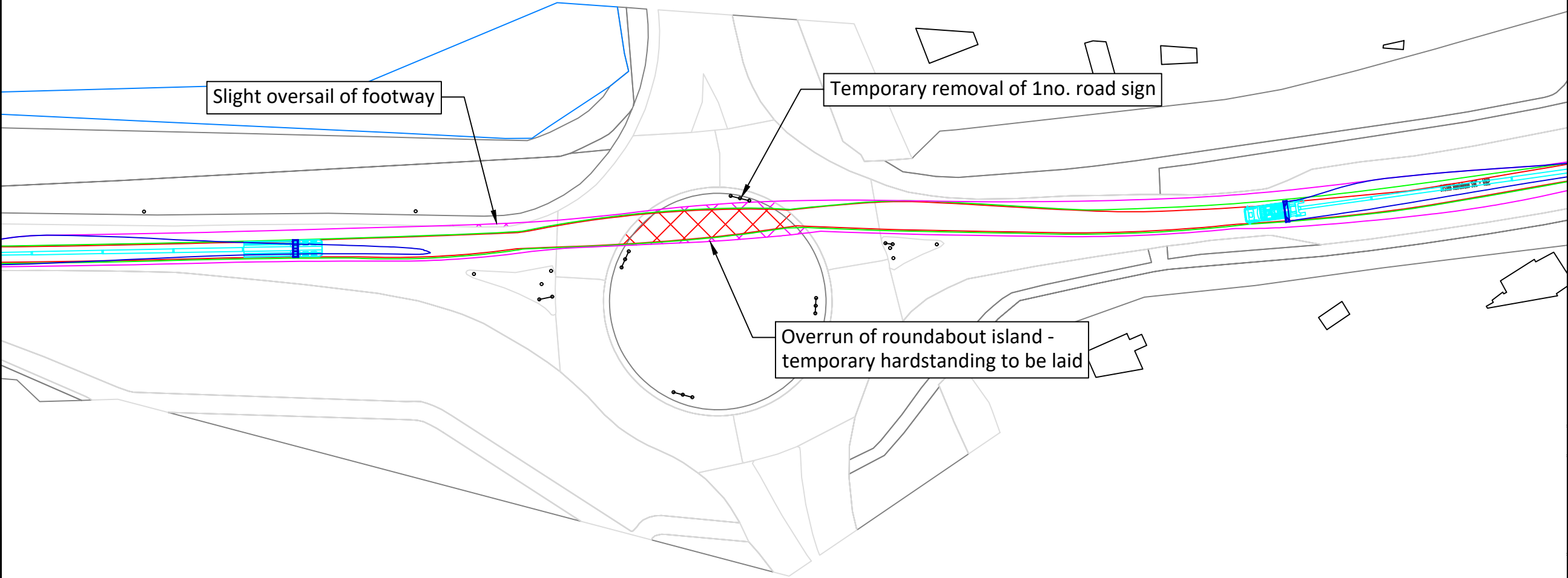
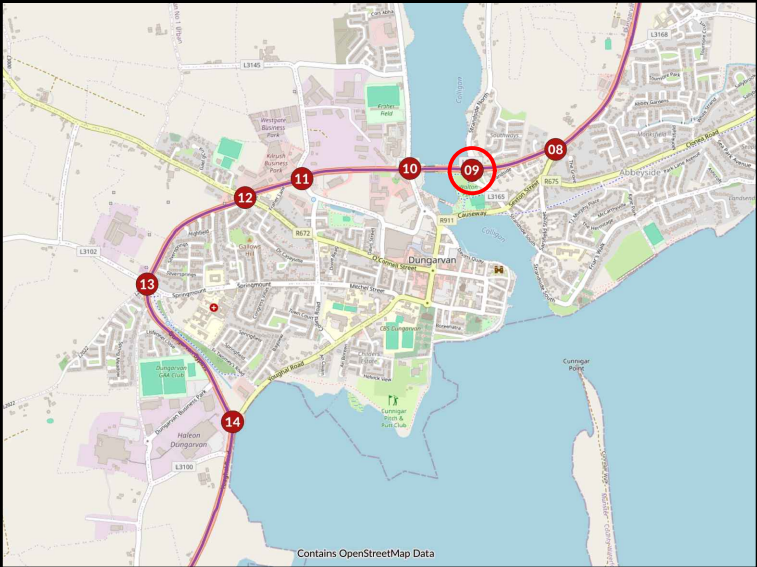
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Client  
Slievegrine Ltd

Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 08

|                               |                                            |                 |
|-------------------------------|--------------------------------------------|-----------------|
| Drawn<br>TF                   | Checked<br>ADV                             | Approved<br>ADV |
| Original dwg. size<br>A3      | Date<br>29/09/2026                         | Scale<br>1:750  |
| Drawing Status<br>Information | Drawing Number<br>IE01T26B10/2001/1/ALA009 | Rev.<br>-       |



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- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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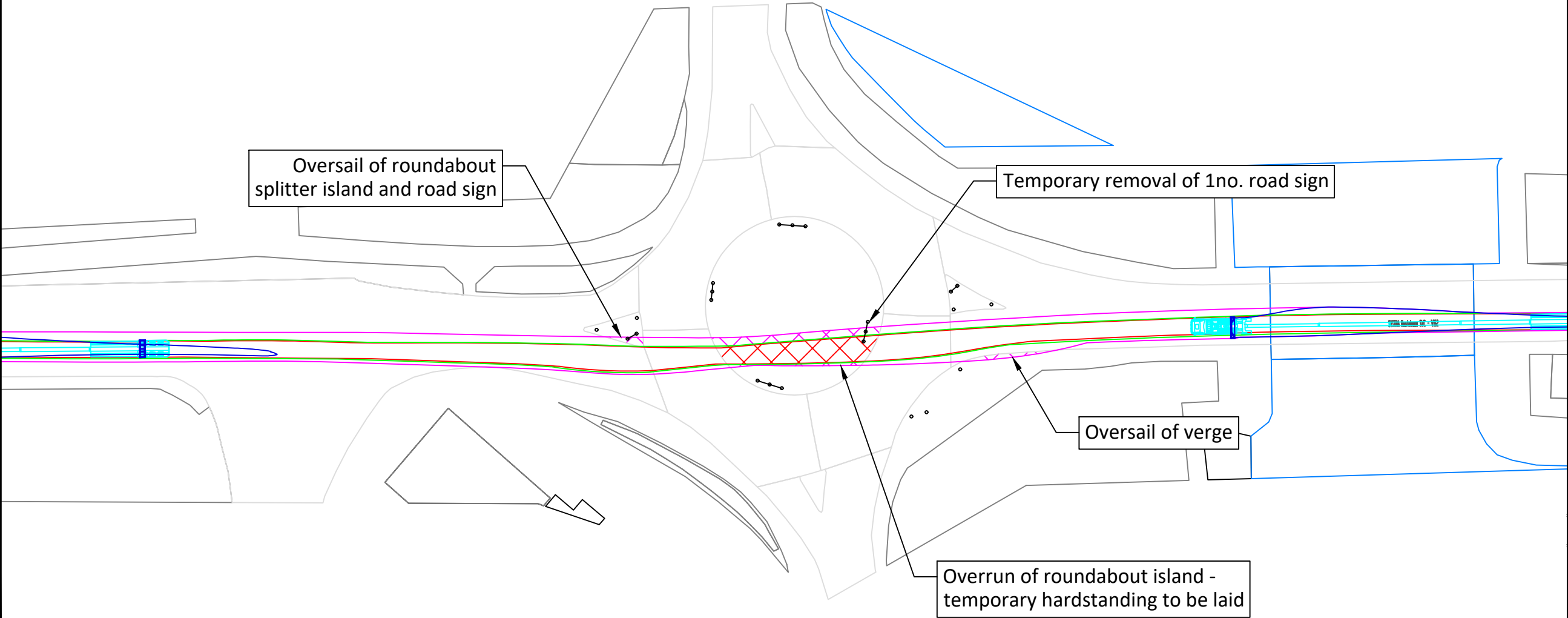
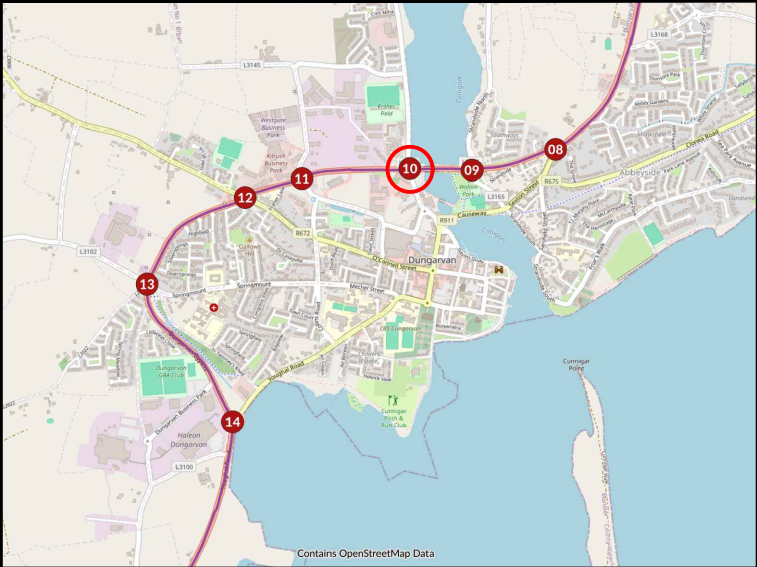
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title

Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 09

| Drawn              | Checked    | Approved |
|--------------------|------------|----------|
| TF                 | ADV        | ADV      |
| Original dtp. size | Date       | Scale    |
| A3                 | 29/09/2026 | 1:750    |
| Drawing Status     |            | Rev.     |
| Information        |            | -        |

| Drawing Number           | Rev. |
|--------------------------|------|
| IE01T26B10/2001/1/ALA010 | -    |



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**Key:**

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- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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Abnormal Loads Assessment

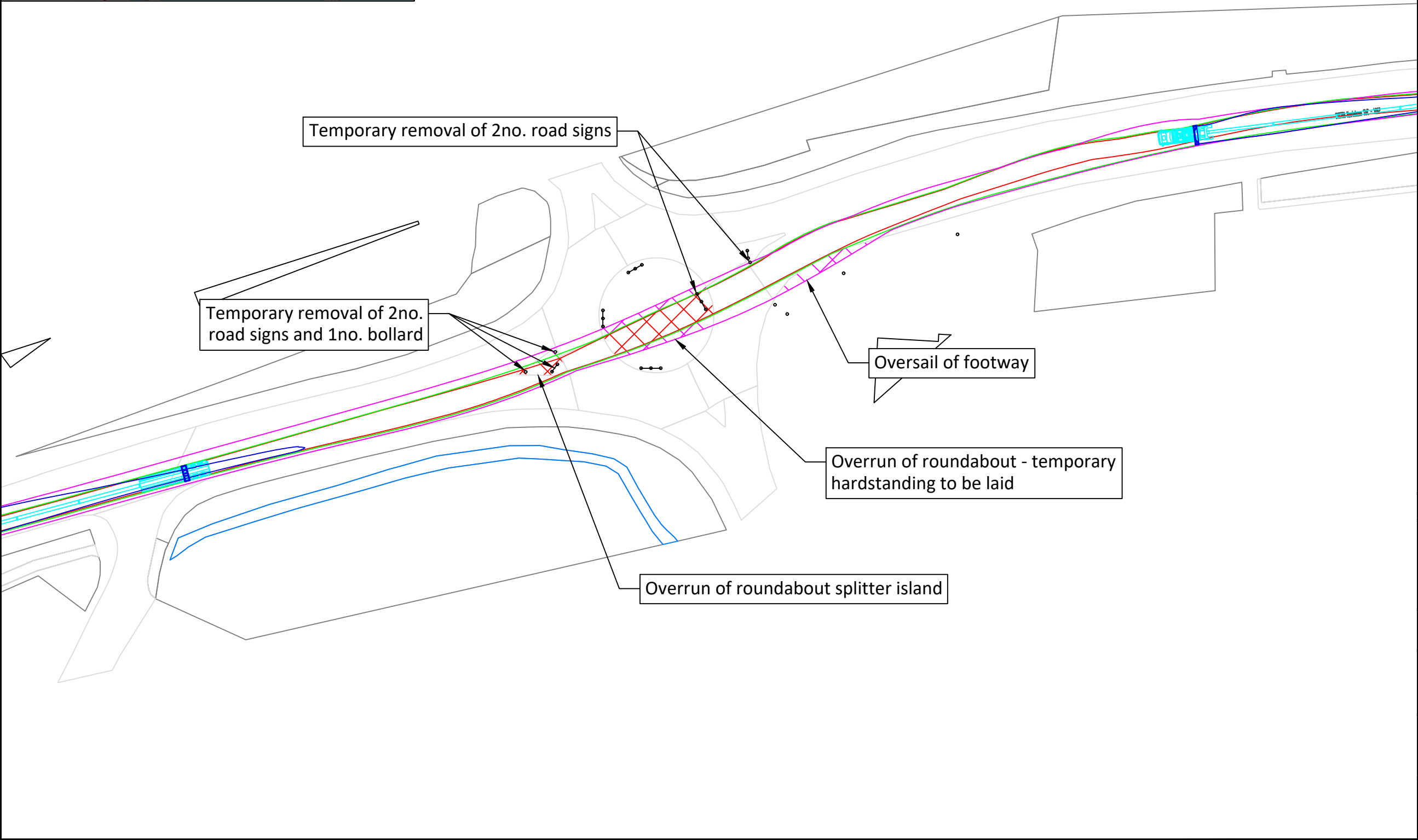
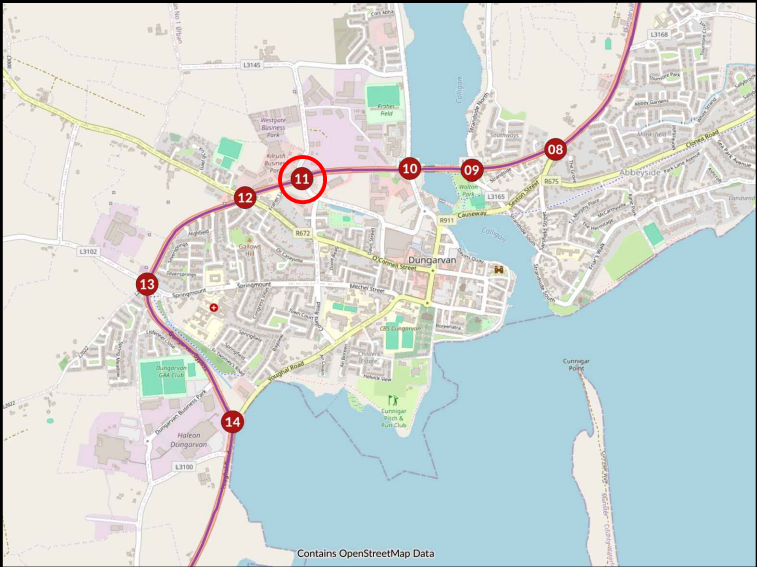
Title

Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 10

| Drawn              | Checked                  | Approved |
|--------------------|--------------------------|----------|
| TF                 | ADV                      | ADV      |
| Original dwg. size | Date                     | Scale    |
| A3                 | 29/09/2026               | 1:750    |
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**Key:**

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- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

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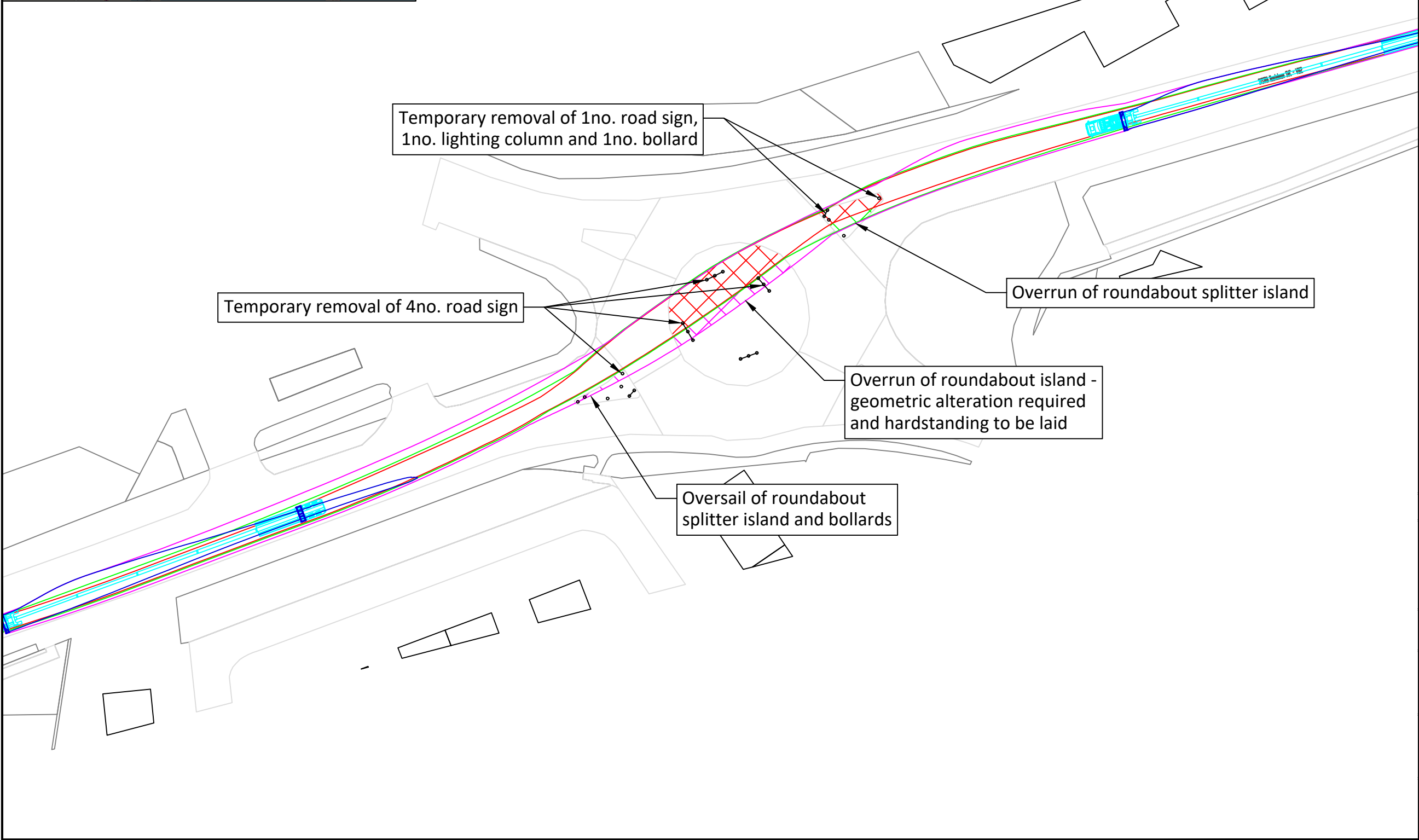
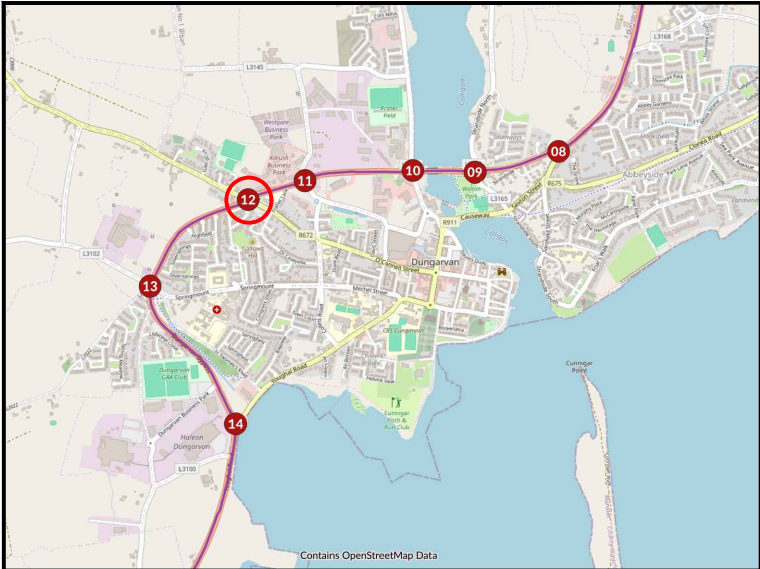
Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 11

|                               |                    |                 |
|-------------------------------|--------------------|-----------------|
| Drawn<br>TF                   | Checked<br>ADV     | Approved<br>ADV |
| Original dtp. size<br>A3      | Date<br>29/09/2026 | Scale<br>1:750  |
| Drawing Status<br>Information |                    | Rev.<br>-       |

Drawing Number  
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Rev.  
-



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**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

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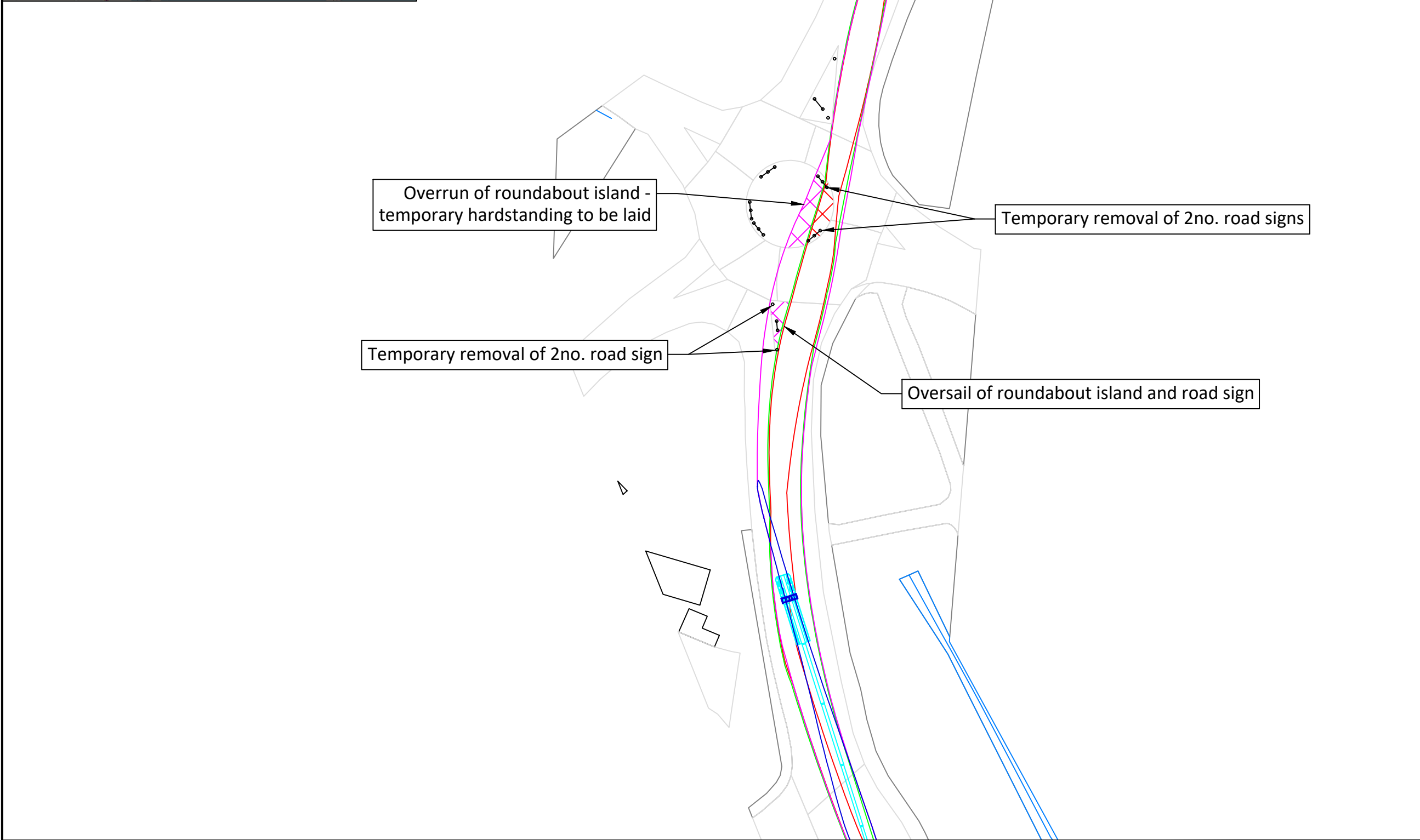
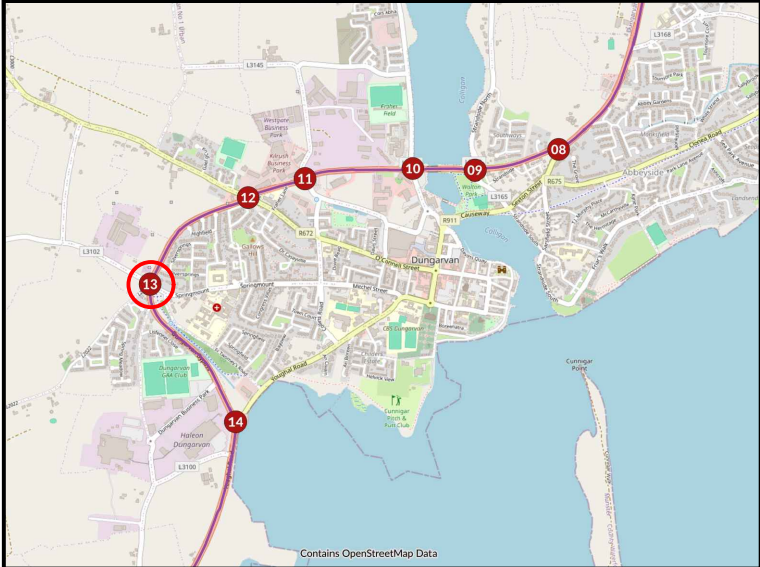
Client  
Slievegrine Ltd

Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 12

| Drawn                         | Checked            | Approved       |
|-------------------------------|--------------------|----------------|
| TF                            | ADV                | ADV            |
| Original dwg. size<br>A3      | Date<br>29/09/2026 | Scale<br>1:750 |
| Drawing Status<br>Information |                    | Rev.<br>-      |

Drawing Number  
IE01T26B10/2001/II/ALA013



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**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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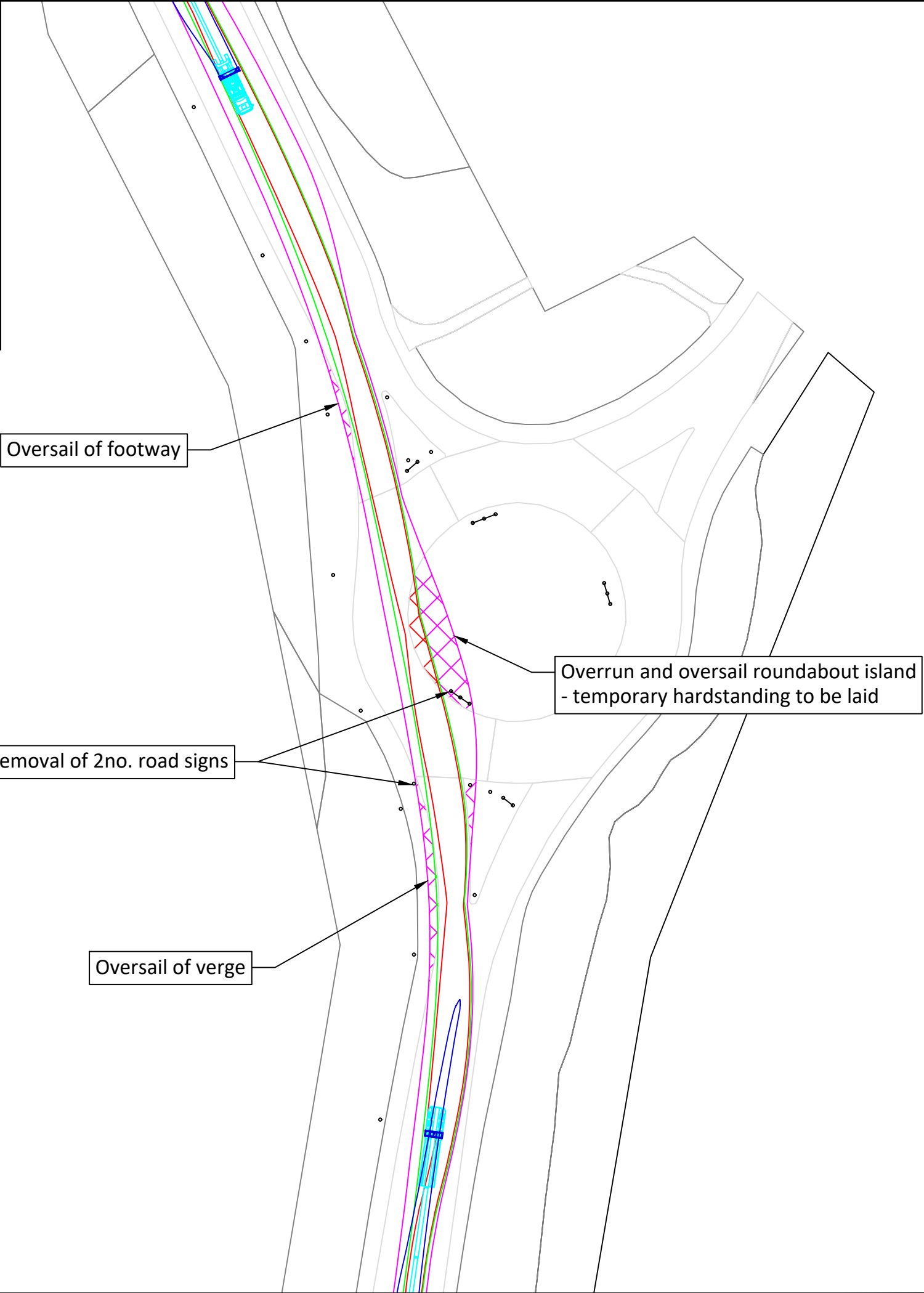
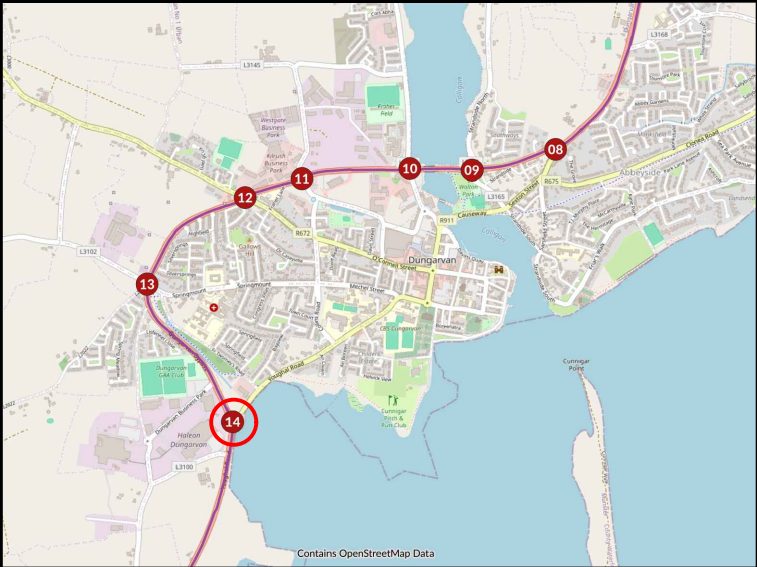
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Client  
Slievegrine Ltd

Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 13

| Drawn                         | Checked                                     | Approved       |
|-------------------------------|---------------------------------------------|----------------|
| TF                            | ADV                                         | ADV            |
| Original dtp. size<br>A3      | Date<br>29/09/2026                          | Scale<br>1:750 |
| Drawing Status<br>Information | Drawing Number<br>IE01T26B10/2001/II/ALA014 | Rev.<br>-      |



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**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
|------|------|------------------|-------|---------|----------|
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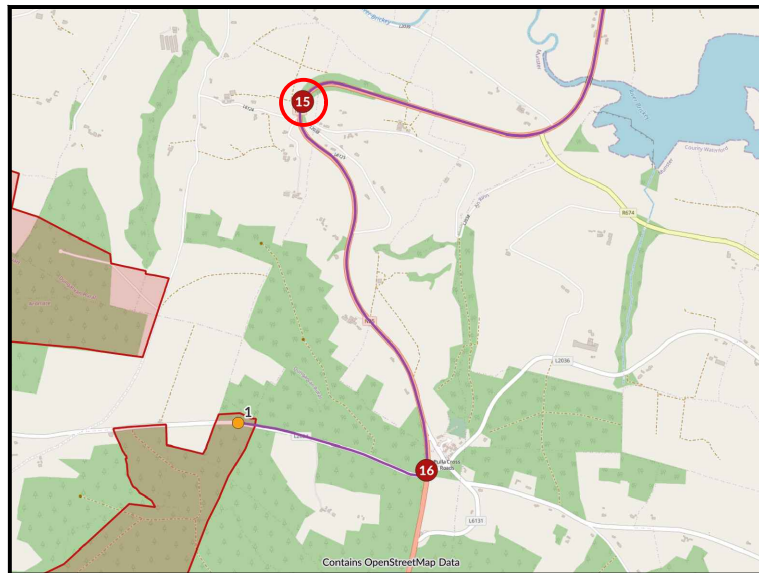
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E scotland@systra.co.uk

Client  
Slievegrine Ltd

Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 14

| Drawn                         | Checked                                    | Approved       |
|-------------------------------|--------------------------------------------|----------------|
| TF                            | ADV                                        | ADV            |
| Original dtd. size<br>A3      | Date<br>29/09/2026                         | Scale<br>1:750 |
| Drawing Status<br>Information | Drawing Number<br>IE01T26B10/2001/1/ALA015 | Rev.<br>-      |



|                                                                                |
|--------------------------------------------------------------------------------|
| Vehicle remains within carriageway extents - no further mitigation anticipated |
|--------------------------------------------------------------------------------|

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1. Do not scale from drawing.
  2. All dimensions in metres unless otherwise stated.
  3. Please note that marked service locations are indicative only and should be confirmed by topographical survey.



Key:

-  Blade Transporter Vehicle
-  Blade Outline
-  Over-run envelope of tractor and trailer wheels
-  Over-sail envelope being swept by tractor and trailer bed
-  Over-sail envelope being swept by blade path
-  Over-run area of tractor and trailer wheels out with carriageway
-  Over-sail area of tractor and trailer bed out with carriageway
-  Over-sail area of blade out with carriageway

|      |      |                  |       |         |          |
|------|------|------------------|-------|---------|----------|
| Rev. | Date | Revision details | Drawn | Checked | Approved |
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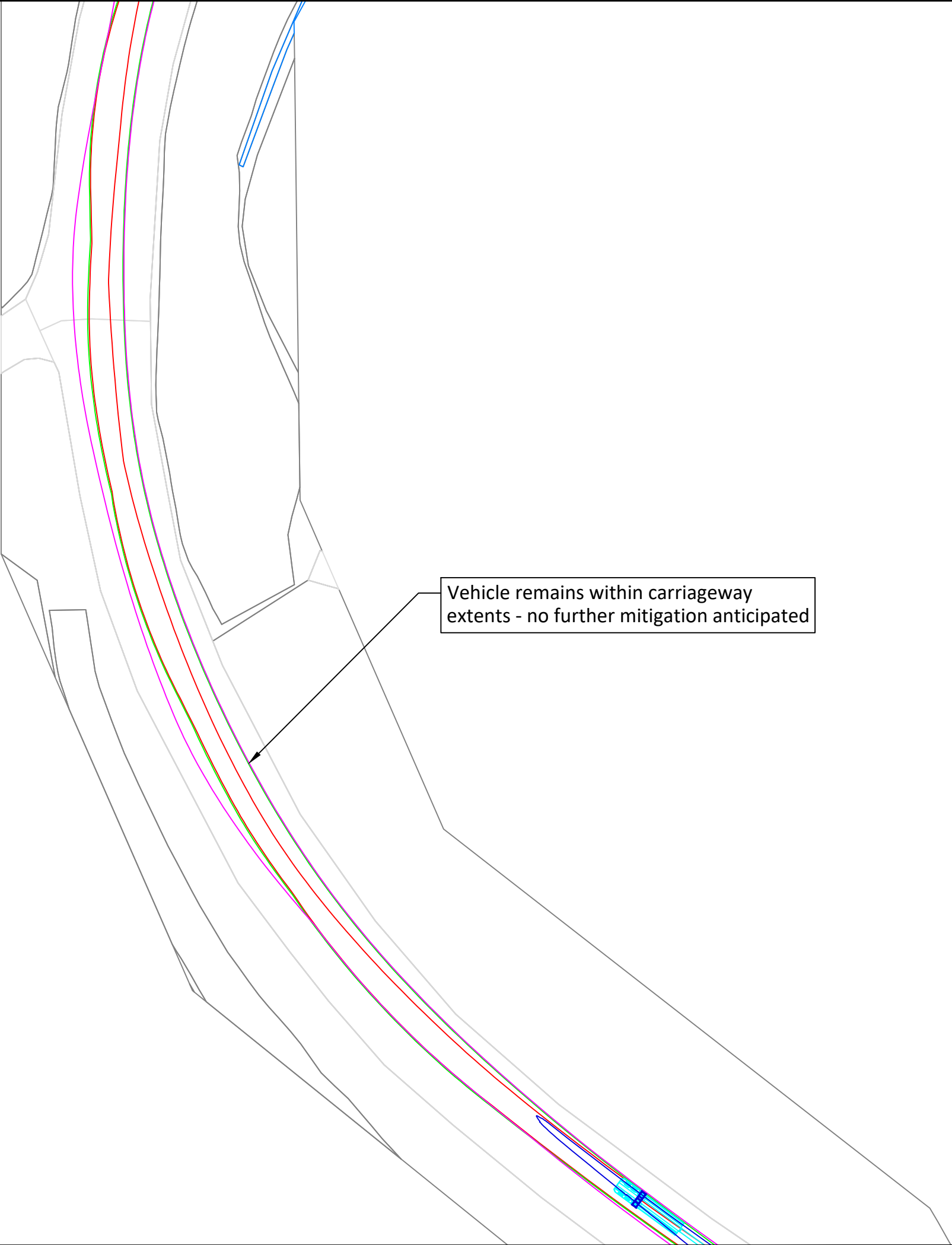
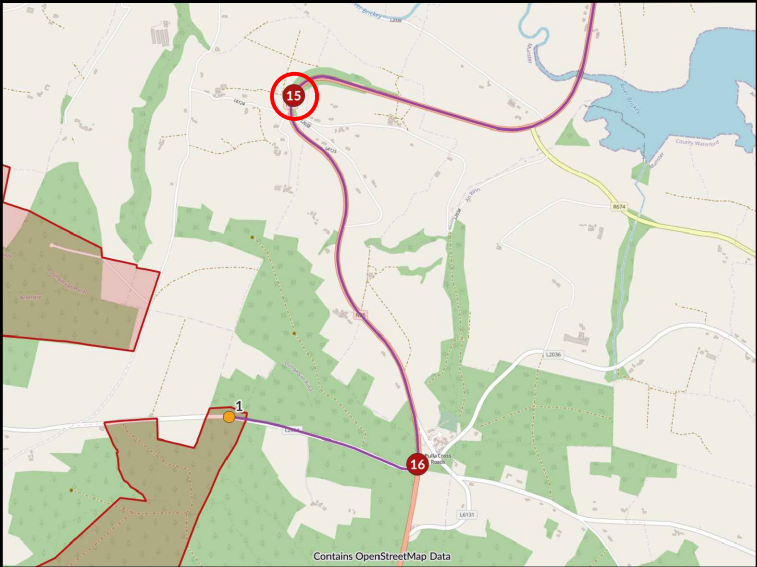
Project

Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title

Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 15 - Sheet 1 of 2

|                    |             |         |                |                         |        |
|--------------------|-------------|---------|----------------|-------------------------|--------|
| Drawn              | TF          | Checked | ADV            | Approved                | ADV    |
| Original dwg. size | A3          | Date    | 29/09/2026     | Scale                   | 1:750  |
| Drawing Status     | Information |         | Drawing Number | IE01T26B10/2001//ALA016 | Rev. - |



**Notes:**

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**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path
- Over-run area of tractor and trailer wheels out with carriageway
- Over-sail area of tractor and trailer bed out with carriageway
- Over-sail area of blade out with carriageway

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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Client

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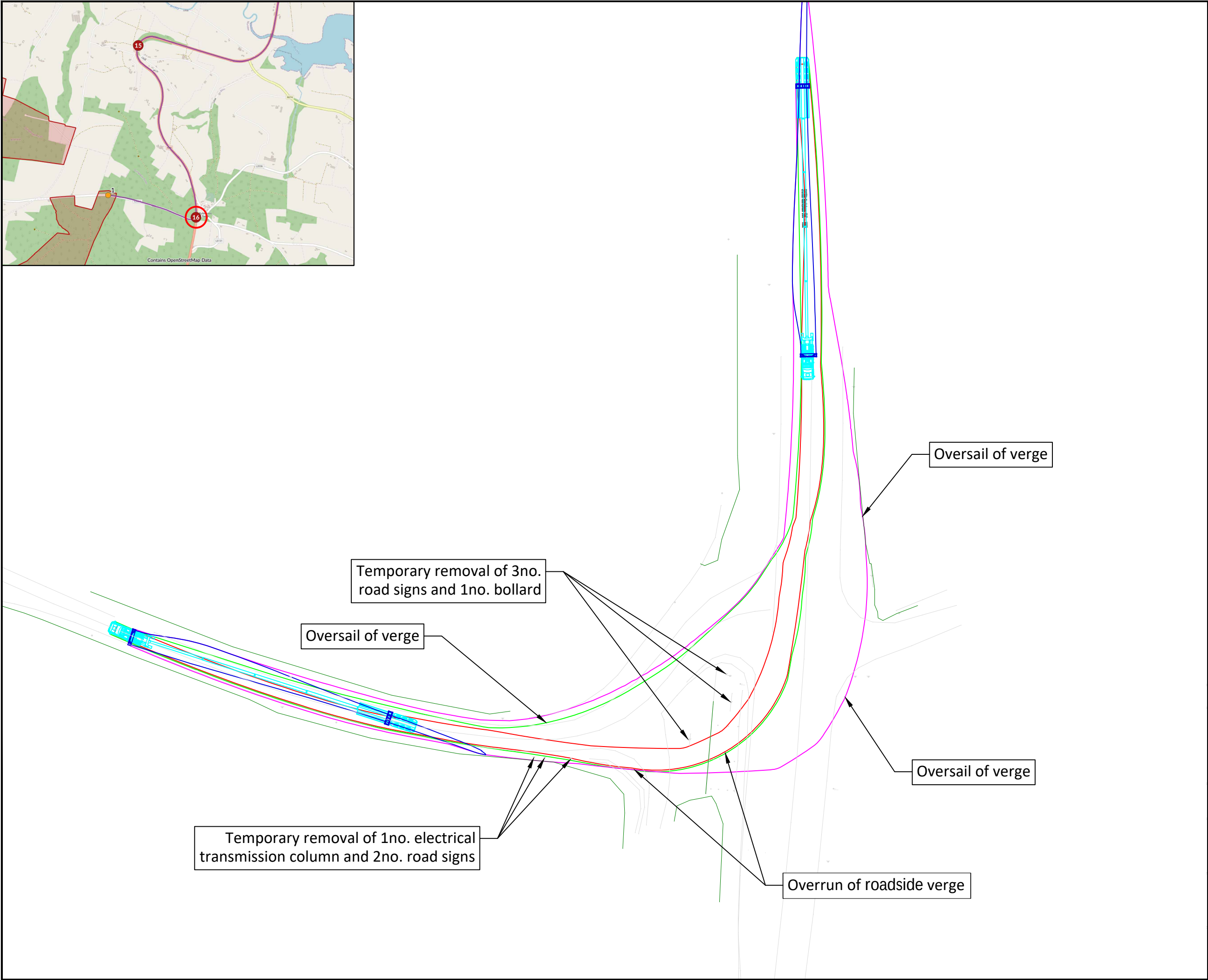
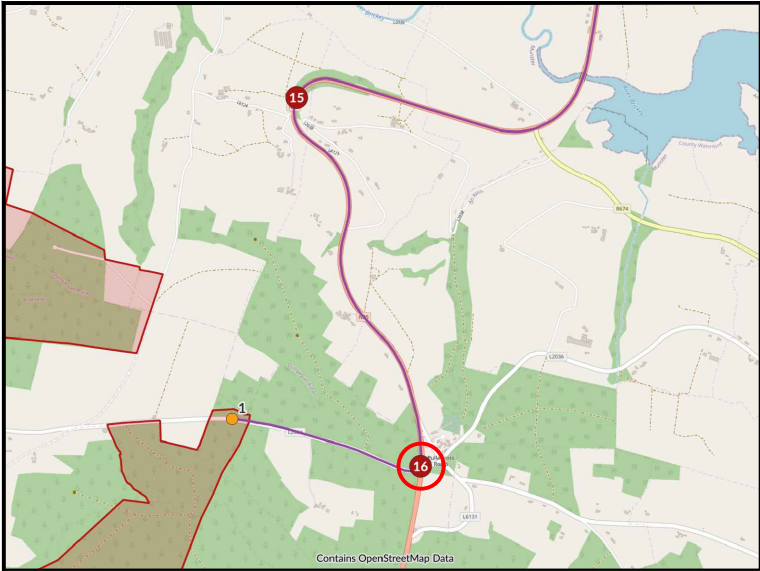
Project

Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title

Vestas V162 Blade (79.35m Length)  
Nooteboom Super Wing Carrier  
Pinch Point 15 - Sheet 2 of 2

| Drawn              | Checked                   | Approved |
|--------------------|---------------------------|----------|
| TF                 | ADV                       | ADV      |
| Original dtp. size | Date                      | Scale    |
| A3                 | 29/09/2026                | 1:750    |
| Drawing Status     | Drawing Number            | Rev.     |
| Information        | IE01T26B10/2001/II/ALA017 | -        |



**Notes:**

- Do not scale from drawing.
- All dimensions in metres unless otherwise stated.
- Please note that marked service locations are indicative only and should be confirmed by topographical survey.

**Key:**

- Blade Transporter Vehicle
- Blade Outline
- Over-run envelope of tractor and trailer wheels
- Over-sail envelope being swept by tractor and trailer bed
- Over-sail envelope being swept by blade path

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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Project  
Slievegrine Renewable Energy Development  
Abnormal Loads Assessment

Title  
Vestas V162 Blade (79.35m Length)  
Nootboom Super Wing Carrier  
Pinch Point 16  
Manual Override Rear Steering Utilised

| Drawn | Checked | Approved |
|-------|---------|----------|
| TF    | ADV     | ADV      |

| Original dwg. size | Date       | Scale |
|--------------------|------------|-------|
| A3                 | 29/09/2026 | 1:750 |

| Drawing Status | Drawing Number           | Rev. |
|----------------|--------------------------|------|
| Information    | IE01T26B10/2001/1/ALA018 | -    |

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