GARRANE GREEN ENERGY

GARRANE GREEN ENERGY PROJECT COUNTY LIMERICK

APPENDIX 17.4

Turbine Delivery Haul Route Assessment – Port of Galway

AUGUST 2025



Jennings O'Donovan & Partners Limited,

Consulting Engineers, Finisklin Business Park, Sligo.

Tel.: 071 9161416 Fax: 071 9161080

email: info@jodireland.com







ENGINEERS IRELAND

cpd ACCRE

JENNINGS O'DONOVAN & PARTNERS LIMITED

Project, Civil and Structural Consulting Engineers, FINISKLIN BUSINESS PARK, SLIGO. IRELAND.

Telephone (071) 9161416 (071) 9161080 Fax

Email info@jodireland.com Web Site www.jodireland.com



DOCUMENT APPROVAL

PROJECT	Garrane Green Energy Project	
CLIENT / JOB NO	Garrane Green Energy Ltd.	6839
DOCUMENT TITLE	Turbine Delivery Haul Route Assessment – Port of Galway	

Prepared by

Reviewed/Approved by

Document Final	Name John Doogan	Name David Kiely
Date	Signature	Signature
August 2025	My	Land Kiely

This document, and information or advice which it contains, is provided by JENNINGS O'DONOVAN & PARTNERS LIMITED solely for internal use and reliance by its Client in performance of JENNINGS O'DONOVAN & PARTNERS LIMITED's duties and liabilities under its contract with the Client. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The advice and opinions in this document are based upon the information made available to JENNINGS O'DONOVAN & PARTNERS LIMITED at the date of this document and on current standards, codes, technology and construction practices as at the date of this document. Following final delivery of this document to the Client, JENNINGS O'DONOVAN & PARTNERS LIMITED will have no further obligations or duty to advise the Client on any matters, including development affecting the information or advice provided in this document. This document has been prepared by JENNINGS O'DONOVAN & PARTNERS LIMITED in their professional capacity as Consulting Engineers. The contents of the document does not, in any way, purport to include any manner of legal advice or opinion. This document is prepared in accordance with the terms and conditions of JENNINGS O'DONOVAN & PARTNERS LIMITED contract with the Client. Regard should be had to those terms and conditions when considering and/or placing any reliance on this document. Should the Client wish (a) JENNINGS O'DONOVAN & PARTNERS LIMITED written agreement is obtained prior to such release, and

(a) (b)

JENNINGS O'DONOVAN & PARTNERS LIMITED written agreement is obtained prior to such release, and By release of the document to the Third Party, that Third Party does not acquire any rights, contractual or otherwise, whatsoever against JENNINGS O'DONOVAN & PARTNERS LIMITED, accordingly, assume no duties, liabilities or obligations to that Third Party, and JENNINGS O'DONOVAN & PARTNERS LIMITED accepts no responsibility for any loss or damage incurred by the Client or for any conflict of JENNINGS O'DONOVAN & PARTNERS LIMITED's interests arising out of the Client's release of this document to the Third Party. (c)

Nigel Board, Abigail Draper, David Kiely, Seamus Lee, David O'Hagan, Alan Ryder

Technical Directors Joe Healy, Sean Molloy Regional Director Audrey Phelan

Senior Associates

Seán Gilmartin, John McElvaney, Tomás McGloin

Associates

Breena Coyle, Dermot Guilfoyle, Lindsey McCormack, Sarah Moore, Cáit O'Reilly



NSAI Certified



QUALITY



6839/405/JD

GARRANE WIND FARM CONTENTS

1.	INTRODUCTION	1
	1.1 Brief	1
	1.2 Objectives	1
	1.3 Statement of Authority	1
	1.4 Design References / Standards	1
2.	PROPOSED TURBINE DELIVERY ROUTE	1
	2.1 Site Location	1
3.	HAUL ROUTE ASSESSMENT	4
3.1	- Exit from Port of Galway onto Lough Atalia Road	4
3.2	- Lough Atalia Road Railway Bridge	5
3.3	- Lough Atalia Road / R339 College Road Junction	6
3.4	- R339 / R338 Junction	7
3.5	- R339 / L5034 Junction	8
3.6	- R336 / L5034 Junction	9
3.7	- N6 / N83 / R336 Junction	10
3.8	– N6 / N67 Junction	11
3.9	- N6 / M18 Junction - Entry Slip Road	12
3.10	- N6 / M18 Junction - Exit Slip Road	13
3.11	- N18 Approach to Tunnel	14
3.12	- M20 / M18 Junction - Exit Slip Road	15
	- M20 / N20 Junction - Exit Slip Road	
	- N20 Site Entrance	17

1. INTRODUCTION

1.1 Brief

Jennings O'Donovan & Partners Limited has been appointed by Greensource, to prepare a Preliminary haul route assessment of the Turbine Delivery Route (TDR) for the proposed Garrane Wind Farm. The haul route assessment will assess the road network between Galway Port and the proposed wind farm site entrance to the north of Charleville on the N20 for the transportation of turbine blades using abnormal load vehicles.

1.2 Objectives

The TDR will identify locations on the haul route which will require modifications for the transportation of turbine components using abnormal load vehicles.

1.3 Statement of Authority

This report has been prepared by John Doogan of Jennings O'Donovan & Partners Limited, Finisklin Sligo. Established in Sligo in 1950 Jennings O'Donovan & Partners Limited is a Clean Tech Company providing consulting engineering services in the areas of road design, renewable energy, civil and structural engineering, water supply, wastewater collection and treatment, environmental resource management and impact assessment and in the area of industrial and commercial development.

1.4 Design References / Standards

The TDR assessment has been carried out using AutoTRACK Analysis, Bing mapping in AutoCAD, Google Maps and topographical survey information (N20 site entrance). The analysis has been carried out using a blade delivery trailer loaded with a 73.940m long blade. The assessment is based on a turbine model with a 150m rotor diameter.

2. PROPOSED TURBINE DELIVERY ROUTE

2.1 Site Location

The location of the proposed haul route from Galway Port to the wind farm development is shown in **Figure 1.** The location of pinch points along the route are shown in **Figure No.2** in the vicinity of

1

Galway, Figure No.3 in the vicinity of limerick and Figure No.4 between Limerick and the site entrance.

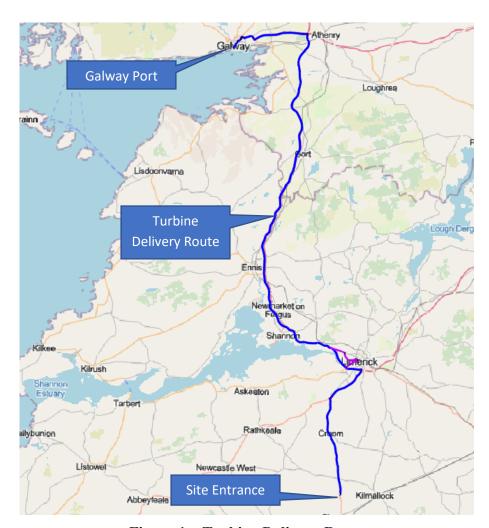


Figure 1 – Turbine Delivery Route

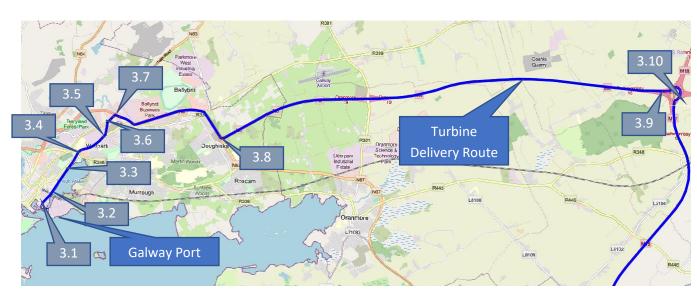


Figure 2 – Turbine Delivery Route Pinch Points (Galway)

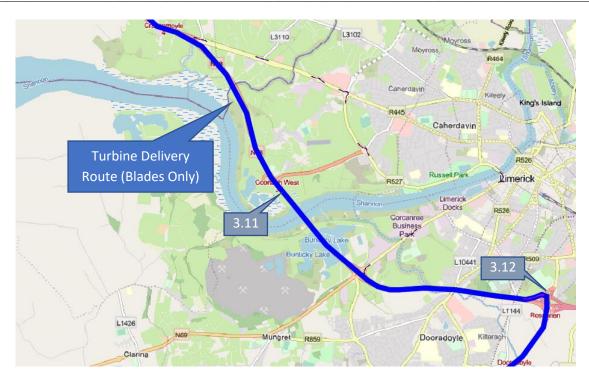


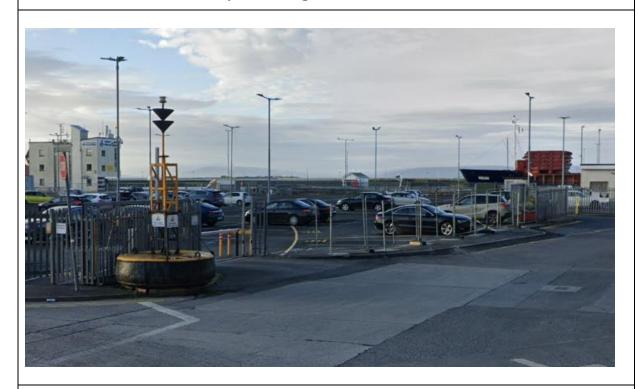
Figure 3 – Turbine Delivery Route Pinch Points (Limerick)

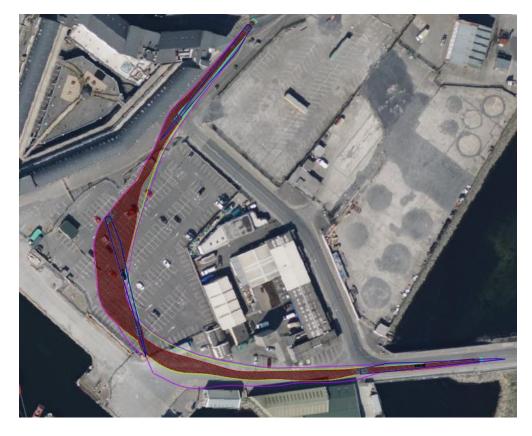


Figure 4 – Turbine Delivery Route Pinch Points (Limerick to Site)

3. HAUL ROUTE ASSESSMENT

3.1 – Exit from Port of Galway onto Lough Atalia Road





Parking Restrictions in Port of Galway car park. Alterations to Port of Galway fencing.

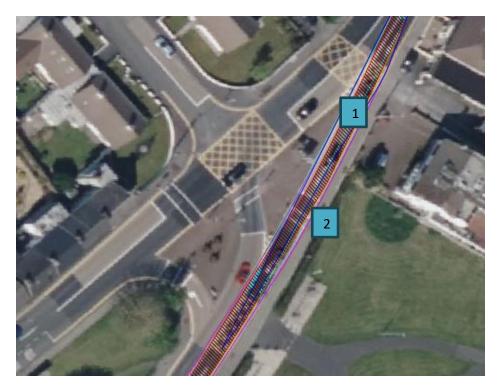
3.2 - Lough Atalia Road Railway Bridge



5.46m Clearance under bridge.

3.3 - Lough Atalia Road / R339 College Road Junction

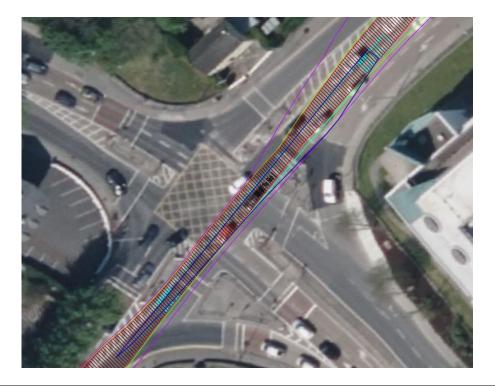




- 1 Contraflow at junction to avoid traffic island.
- 2 Signs and traffic light to be removed during transportation.

3.4 - R339 / R338 Junction

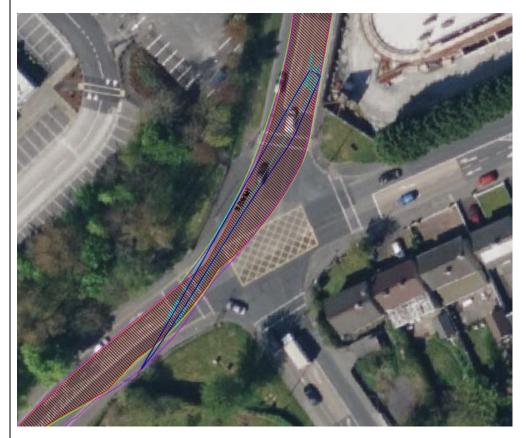




Contraflow at junction to avoid traffic island and traffic lights on central island.

3.5 - R339 / L5034 Junction

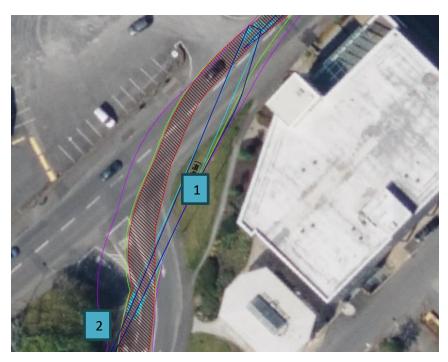




Location of traffic lights and street furniture to be checked prior to transportation.

3.6 - R336 / L5034 Junction

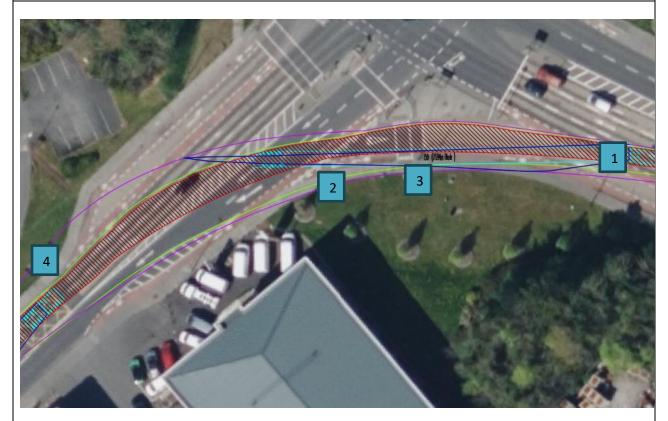




- 1 Lighting column on inside of bend to be moved during transportation.
- 2 Vegetation to be trimmed for load oversail.

3.7 - N6 / N83 / R336 Junction





- 1 Vehicles to contraflow slip lane at junction to avoid traffic islands.
- 2 Pedestrian railing to be removed at inside of bend during transportation.
- 3 Traffic light to be removed at inside of bend during transportation.
- 4 Directional sign to be relocated during transportation.

3.8 - N6 / N67 Junction





- 1 Lighting column to be removed during transportation.
- 2 Road sign to be removed during transportation.
- 3 Road sign on splitter island to be removed during transportation.

3.9 - N6 / M18 Junction - Entry Slip Road



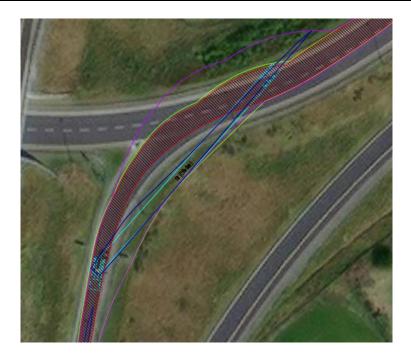




- 1 Signs at entry to be removed during transportation.
- 2 Signs at entry to be removed during transportation.

3.10 - N6 / M18 Junction - Exit Slip Road





- 1 Lighting Column at exit to be relocated during transportation.
- 2 Barrier to be set back during transportation.
- 3 Sign at exit to be relocated during transportation.

3.11 - N18 Approach to Tunnel







- 1 Height Restriction in Tunnel.
- 2 Width restriction at toll booth.

3.12 - M20 / M18 Junction - Exit Slip Road





1 Vegetation to be removed from inside of slip lane.

3.13 – M20 / N20 Junction – Exit Slip Road

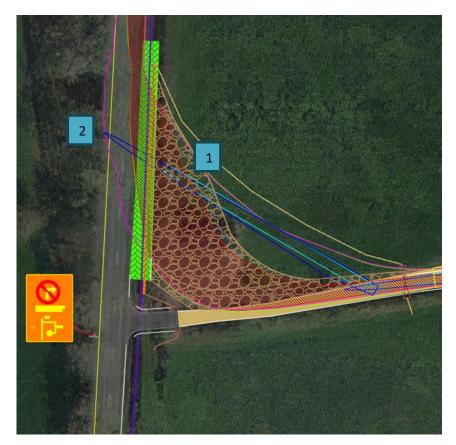




- 1 Sign in verge relocated during transportation.
- 2 Signs on splitter island to be removed during transportation.

3.14 - N20 Site Entrance





- 1 New site entrance constructed to accommodate the swept path of abnormal vehicles.
- 2 Tree trimming for blade oversail.