

Technical Appendix 9-3 Baseline Noise Survey Details

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Muingmore Wind Farm

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RWE Renewables Ireland Limited

Muingmore Wind Farm – Noise and Vibration

Technical Appendix 9-3 Baseline Noise Survey Details

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Contents

1	OVERVIEW OF SURVEY LOCATIONS.....	2
2	NML1 – TRISTIA, CO. MAYO F26 V2N7.....	3
2.1	Equipment.....	3
2.2	Description of Measurement Location	3
2.3	Details of any Excluded Data.....	3
3	NML2 – TRISTIA, CO. MAYO F26 K2R6	5
3.1	Equipment.....	5
3.2	Description of Measurement Location	5
3.3	Details of any excluded data.....	5
4	NML3 – DOOLOUGH, CO. MAYO F26 WN97	7
4.1	Equipment.....	7
4.2	Description of Measurement Location	7
4.3	Details of any Excluded Data.....	7
5	NML4 – DOOLOUGH, CO. MAYO F26 E1C7.....	9
5.1	Equipment.....	9
5.2	Description of Measurement Location	9
5.3	Details of any excluded data.....	9
6	NML5 – DOOLOUGH, CO. MAYO F26 H9Y3.....	11
6.1	Equipment.....	11
6.2	Description of Measurement Location	11
6.3	Details of any excluded data.....	11
7	NML6 – MUINGMORE, CO. MAYO F26 TR74.....	13
7.1	Equipment.....	13
7.2	Description of Measurement Location	13
7.3	Details of any Excluded Data.....	13
8	NML7 – MUINGMORE, CO. MAYO F26 YN24	16
8.1	Equipment.....	16
8.2	Description of Measurement Location	16
8.3	Details of any excluded data.....	16

1 Overview of Survey Locations

Set out below in Plate 9-1 is an overview of the noise measurement locations (NML), also shown is the approximate red line boundaries for the Main Wind Farm Development Site. Further details of the installed location and Sound Level Meters (SLM) used are provided in the subsequent sections. All measurements were carried out during a dry spell with very little rain.

Plate 9-1 - Overview of the Noise Monitoring Locations

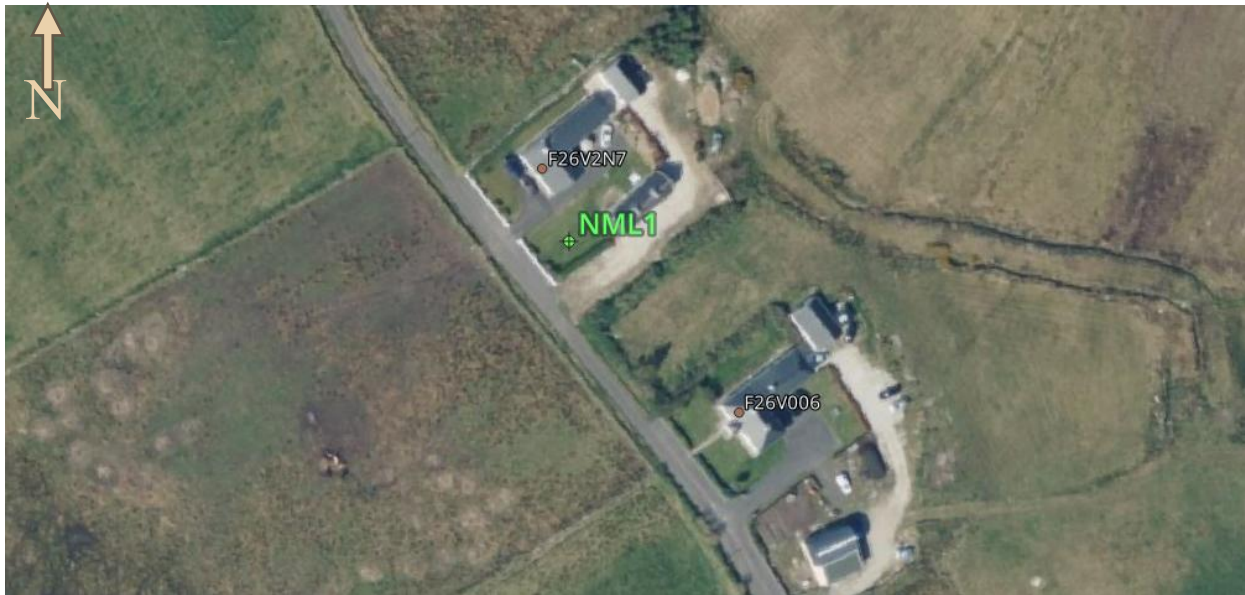


2 NML1 – Tristia, Co. Mayo F26 V2N7

2.1 Equipment

Sound level meter (SLM) position:	479025, 823003
SLM type and serial number:	Larson Davis LD-LxT1L, sn 0005610
SLM laboratory calibration date:	05/07/2021
Field calibration values:	113.8 dB (start) / 113.2 dB (end) @ 1kHz
Drift in field calibration:	0.6 dB
Date and time of setup:	19/05/2023, 13:20 (IST)
Date and time of collection:	16/06/2023, 11:30 (IST)

Plate 9-2 - NML1 F26 V2N7



2.2 Description of Measurement Location

Situated to the east of the Main Wind Farm Development Site. Meter located in front garden, no dominant noise sources noticed. The position was selected to be away from any observed localised sources of noise such as boiler flues, pumps or fan outlets and considered to be acoustically representative of the amenity space in the private garden. Very rural, with just fields and bog in surroundings. House next door and the very rural line to the front of the house. There were very few cars passing when setting up or collecting the meter. No potential dominant noise sources observed nearby with some intermittent farm animal noises. Photographs of the meter at this location are provided in Plate 9-3 to Plate 9-6.

2.3 Details of any Excluded Data

- Any data measured between 04:00 and 07:00 (local time) due to potential increase owing to the dawn chorus;
- Any data measured during, or within 30 minutes of rainfall; and
- Data showing a temporary increase in noise clearly not related to wind speed (IST):
 - 16:30 hours on 20/05/2023
 - 18:10 hours on 23/05/2023
 - 19:00 hours on 27/05/2023
 - 18:40 hours on 06/06/2023
 - 19:00 hours on 22/05/2023
 - 18:20 hours on 26/05/2023
 - 19:00 hours on 05/06/2023
 - 13:20 hours on 11/06/2023

Plate 9-3 – NML1 Looking North



Plate 9-4 – NML1 Looking East



Plate 9-5 – NML1 Looking South



Plate 9-6 – NML1 Looking West

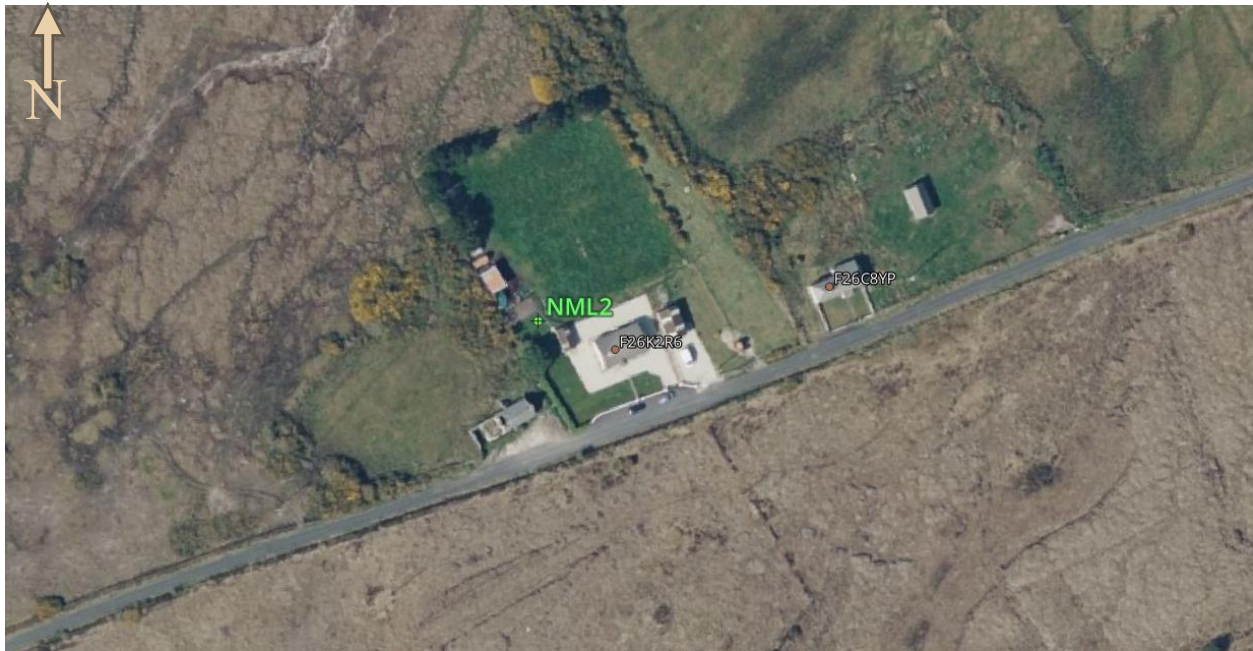


3 NML2 – Tristia, Co. Mayo F26 K2R6

3.1 Equipment

Sound level meter (SLM) position:	478224, 822158
SLM type and serial number:	Larson Davis LD-LxT1L, sn 0006432
SLM laboratory calibration date:	13/01/2022
Field calibration values:	114.0 dB (start) / 113.3 dB (end) @ 1kHz
Drift in field calibration:	0.7 dB
Date and time of setup:	19/05/2023, 13:10 (IST)
Date and time of collection:	16/06/2023, 11:40 (IST)

Plate 9-7 – NML2 F26 K2R6



3.2 Description of Measurement Location

Situated to the south east of the Main Wind Farm Development Site. Meter located on the lawn in the back of the house. This was the most suitable location from the available space advised by the resident. The position was selected to be at least 4 m from any reflective surface (other than the ground) and away from any observed localised sources of noise such as boiler flues, pumps or fan outlets and considered to be acoustically representative of the amenity space in the private garden. Wind disturbed vegetation and other natural sounds were noted with no dominant noise sources and occasional dog barking and farm animals. Very little traffic on the rural road in front of the house. Photographs of the SLM in situ are provided in Plate 9-8 to Plate 9-11.

3.3 Details of any excluded data

- Any data measured between 04:00 and 07:00 (local time) due to potential increase owing to the dawn chorus;
- Any data measured during, or within 30 minutes of rainfall; and
- Data showing a temporary increase in noise clearly not related to wind speed (IST):
 - 11:50 hours on 28/05/2023
 - 12:20 hours on 11/06/2023

Plate 9-8 – NML2 Looking North



Plate 9-9 – NML2 Looking East



Plate 9-10 – NML2 Looking South



Plate 9-11 – NML2 Looking West



4 NML3 – Doolough, Co. Mayo F26 WN97

4.1 Equipment

Sound level meter (SLM) position:	477458, 821023
SLM type and serial number:	Larson Davis LD-LxT1L, sn 0006600
SLM laboratory calibration date:	28/09/2021
Field calibration values:	113.9 dB (start) / 113.3 dB (end) @ 1kHz
Drift in field calibration:	0.6 dB
Date and time of setup:	19/05/2023, 12:40 (IST)
Date and time of collection:	16/06/2023, 12:30 (IST)

Plate 9-12 – NML3 F26 WN97



4.2 Description of Measurement Location

Situated to the south-south-east of the Main Wind Farm Development Site. The house was noted to have high trees at the roadside. The meter was set up in the most suitable location within the back of the garden away from tall trees. The position was selected to be at least 4 m from any reflective surface (other than the ground) and away from any observed localised sources of noise such as boiler flues, pumps or fan outlets and considered to be acoustically representative of the amenity space in the private garden. The road beside the house was reasonably busy but in a rural location. The only other noise sources identified were natural sounds such as wind disturbed vegetation and birds. A rain gauge was installed at this location. Photographs of the SLM in situ are provided in Plate 9-13 to Plate 9-16.

4.3 Details of any Excluded Data

- Any data measured between 04:00 and 07:00 (local time) due to potential increase owing to the dawn chorus; and
- Any data measured during, or within 30 minutes of rainfall.

Plate 9-13 – NML3 Looking North



Plate 9-14 – NML3 Looking East



Plate 9-15 – NML3 Looking South



Plate 9-16 – NML3 Looking West



5 NML4 – Doolough, Co. Mayo F26 E1C7

5.1 Equipment

Sound level meter (SLM) position:	475628, 821141
SLM type and serial number:	Larson Davis LD-LxT1, sn 0007335
SLM laboratory calibration date:	04/05/2023
Field calibration values:	113.9 dB (start) / 113.5 dB (end) @ 1kHz
Drift in field calibration:	0.4 dB
Date and time of setup:	19/05/2023, 12:20 (BST)
Date and time of collection:	16/06/2023, 12:10 (BST)

Plate 9-17 – NML4 F26 E1C7



5.2 Description of Measurement Location

Situated to the south-south-west of the Main Wind Farm Development Site. Noise monitor was located in the garden to the side of the house. The position was selected to be at least 4 m from any reflective surface (other than the ground) and away from any observed localised sources of noise such as boiler flues, pumps or fan outlets and considered to be acoustically representative of the amenity space in the private garden. Dominant noise sources noted were natural sounds such as wind disturbed vegetation and birds, with occasional passing vehicles using the road to the front of the house. Photographs of the SLM in situ are provided in Plate 9-18 to Plate 9-21.

5.3 Details of any excluded data

- Any data measured between 04:00 and 07:00 (local time) due to potential increase owing to the dawn chorus;
- Any data measured during, or within 30 minutes of rainfall; and
- Data showing a temporary increase in noise clearly not related to wind speed (IST):
 - 00:10 hours on 02/06/2023

Plate 9-18 – NML4 Looking North



Plate 9-19 – NML4 Looking East



Plate 9-20 – NML4 Looking South



Plate 9-21 – NML4 Looking West



6 NML5 – Doolough, Co. Mayo F26 H9Y3

6.1 Equipment

Sound level meter (SLM) position:	475576, 822370
SLM type and serial number:	Larson Davis LD-LxT1L, sn 0007332
SLM laboratory calibration date:	04/05/2023
Field calibration values:	113.6 dB (start) / 112.8 dB (end) @ 1kHz
Drift in field calibration:	0.8 dB
Date and time of setup:	19/05/2023, 12:10 (IST)
Date and time of collection:	16/06/2023, 12:20 (IST)

Plate 9-22 – NML5 F26 H9Y3



6.2 Description of Measurement Location

Situated to the west of the Main Wind Farm Development Site. The meter was installed in the front garden of the house. The position was selected to be at least 4 m from any reflective surface (other than the ground) and away from any observed localised sources of noise such as boiler flues, pumps or fan outlets and considered to be acoustically representative of the amenity space in the private garden. Dominant noise sources noted were natural sounds such as wind disturbed vegetation and birds, with occasional passing vehicles using the road to the front of the house. Photographs of the SLM in situ are provided in Plate 9-23 to Plate 9-26.

6.3 Details of any excluded data

- Any data measured between 04:00 and 07:00 (local time) due to potential increase owing to the dawn chorus;
- Any data measured during, or within 30 minutes of rainfall; and
- Data showing a temporary increase in noise clearly not related to wind speed (IST):
 - 11:30, 12:40, 20:00 & 21:10 hours on 21/05/2023
 - 00:20 & 01:30 hours on 02/06/2023
 - 20:00 hours on 05/06/2023

Plate 9-23 – NML5 Looking North



Plate 9-24 – NML5 Looking East



Plate 9-25 – NML5 Looking South



Plate 9-26 – NML5 Looking West



7 NML6 – Muingmore, Co. Mayo F26 TR74

7.1 Equipment

Sound level meter (SLM) position:	474501, 824174
SLM type and serial number:	Larson Davis LD-LxT1L, sn 0007334
SLM laboratory calibration date:	04/05/2023
Field calibration values:	113.9 dB (start) / 113.6 dB (end) @ 1kHz
Drift in field calibration:	0.3 dB
Date and time of setup:	19/05/2023, 11:50 (IST)
Date and time of collection:	16/06/2023, 12:00 (IST)

Plate 9-27 – NML6 F26 TR74



7.2 Description of Measurement Location

Situated to the west of the Main Wind Farm Development Site. The meter was installed to the south of the property, approximately 3.5 m from a low blockwork wall. This was the nearest surface that would be acoustically reflective, other than the ground, however, it was not considered to be fully reflective and a sufficient distance away to not influence the measured data. The position was away from any observed localised sources of noise such as boiler flues, pumps or fan outlets and considered to be acoustically representative of the amenity space in the private garden. Access to the garden was not provided. Dominant noise sources noted were natural sounds such as wind disturbed vegetation and birds, with occasional passing vehicles using the road to the front of the house. Photographs of the SLM in situ are provided in Plate 9-28 to Plate 9-30.

7.3 Details of any Excluded Data

- Any data measured between 04:00 and 07:00 (local time) due to potential increase owing to the dawn chorus;
- Any data measured during, or within 30 minutes of rainfall; and
- Data showing a temporary increase in noise clearly not related to wind speed (IST):
 - 20:10 hours on 20/05/2023 20:20 hours on 21/05/2023
 - 19:10 hours on 23/05/2023 18:50 hours on 25/05/2023

-
- 20:50 hours on 25/05/2023
 - 18:30-19:40 & 22:50 on 29/05/23
 - 15:50 hours on 28/05/2023
 - 18:20 hours on 14/06/2023

Plate 9-28 – NML6 Looking North



Plate 9-29 – NML6 Looking South



Plate 9-30 – NML6 Looking West

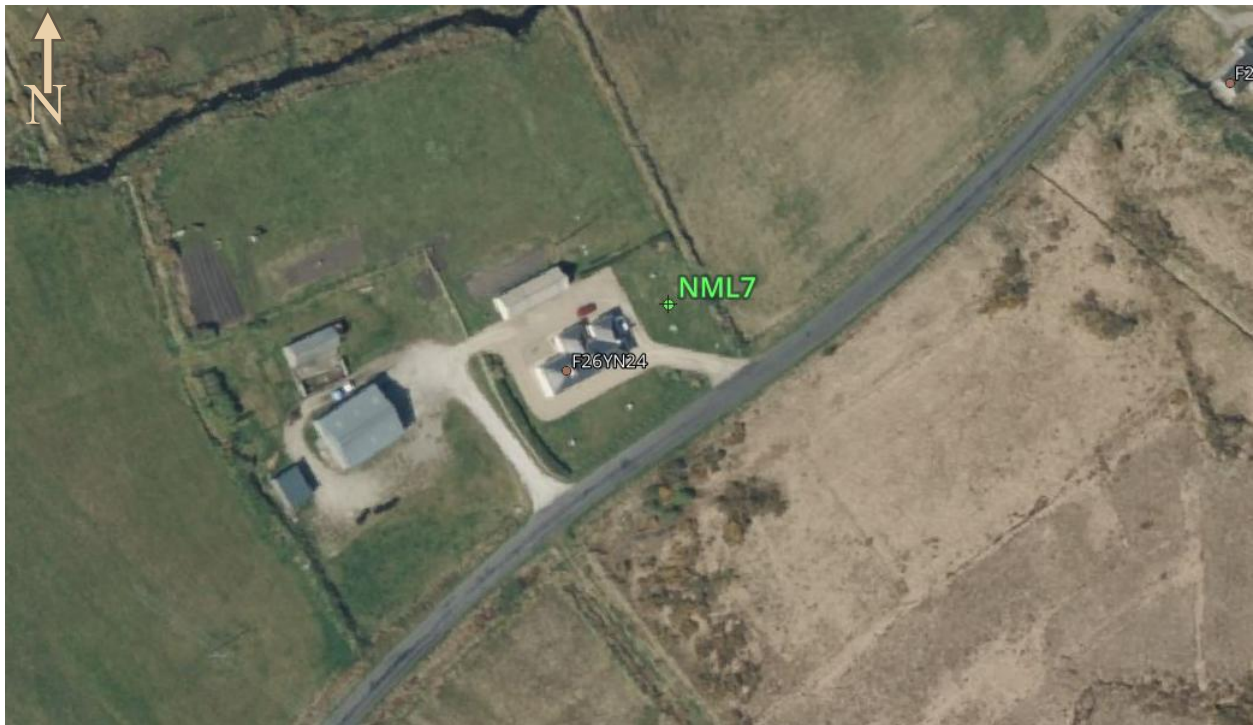


8 NML7 – Muingmore, Co. Mayo F26 YN24

8.1 Equipment

Sound level meter (SLM) position:	474781, 824594
SLM type and serial number:	Larson Davis LD-LxT1, sn 0005648
SLM laboratory calibration date:	23/06/2021
Field calibration values:	114.0 dB (start) / 113.0 dB (end) @ 1kHz
Drift in field calibration:	1.0 dB
Date and time of setup:	19/05/2023, 11:50 (BST)
Date and time of collection:	16/06/2023, 11:50 (BST)

Plate 9-31 – NML7 F26 YN24



8.2 Description of Measurement Location

Situated to the north west of the Main Wind Farm Development Site. The meter was set up in the garden beside the house. A stream was noted at the end of the garden (approximately 70m away) but no evidence was found of this influencing the measured data. The position was selected to be at least 4 m from any reflective surface (other than the ground) and away from any observed localised sources of noise such as boiler flues, pumps or fan outlets and considered to be acoustically representative of the amenity space in the private garden. Dominant noise sources noted were natural sounds such as wind disturbed vegetation and birds, with occasional passing vehicles using the road to the front of the house. Photographs of the SLM in situ are provided in Plate 9-32 to Plate 9-35.

8.3 Details of any excluded data

- Any data measured between 04:00 and 07:00 (local time) due to potential increase owing to the dawn chorus; and
- Any data measured during, or within 30 minutes of rainfall.

Plate 9-32 – NML7 Looking North



Plate 9-33 – NML7 Looking East



Plate 9-34 – NML7 Looking South



Plate 9-35 – NML7 Looking West

