ENVIRONMENTAL IMPACT ASSESSMENT REPORT

The Burrow CFERM scheme

Appendix 7A

Volume 3

Appendix 7.A

Baseline Noise Monitoring Survey and Data

7.1 Noise Monitoring Locations

RPS has undertaken a noise monitoring survey in relation to the Proposed Development located at the Burrow, which is a sandy spit that separates the inner part of the Rogerstown Estuary from the Irish Sea. The noise monitoring locations are shown below in Figure 7.A.1.

Figure 7.A.1: Attended Noise Monitoring Locations

To determine representative of the existing noise sources at the Burrow, RPS undertook attended noise monitoring at 2 locations during the day on Thursday 25th May 2023. Table 7.A.1 includes a description of the noise monitoring location, date, time, and sound level meter used. The calibration certificates and sound level meter specifications from the noise survey equipment are also detailed below.

Table 7.A.1: Attended Noise Monitoring Summary

Noise Monitoring Location	Description of Noise Monitoring Location	Time/Start Date	Time/End Date	Sound Level Meter
NML 1	Located at the top of Beach Lane and west of the proposed works, adjacent to entrance of mobile home park	09:03 hrs 25/05/3023	10:18 hrs 25/05/2023	Brüel & Kjær Type 2250
		11:43 hrs 25/05/2023	12:43 hrs 25/05/2023	
		14:08 hrs 25/05/2023	15:08 hrs 25/05/2023	
NML 2	Located north west of the proposed works at the top of Burrow Road, adjacent to residential property.	10:32 hrs 25/05/2023	11:32 hrs 25/05/2023	Brüel & Kjær Type 2250
		12:52 hrs 25/05/2023	13:52 hrs 25/05/2023	
		15:30 hrs 25/05/2023	16:30 hrs 25/05/2023	

7.1.1 Methodology

At each NML the microphone was placed at a height of 1.2 - 1.5m above ground level, and equipped with an all-weather wind shield which also provides water resistance.

The proprietary wind shield used is certified by the manufacturer as meeting Type 1 / Class 1 precision standards.

The following parameters were recorded during each noise monitoring period:

- L_{Aeq} The continuous equivalent A-weighted sound pressure level. This is an 'average' of the sound pressure level.
- L_{Amax} This is the maximum A-weighed sound level measured during the sample period.
- L_{Amin} This is the minimum A-weighted sound level measured during the sample period.
- L_{A10} This is the A-weighted sound level that is exceeded for noise for 10% of the sample period.
- L_{A90} This is the A-weighted sound level that is exceeded for 90% of the sample period.

The weather during each set of measurements was conducive to the measurement of existing noise climate during the surveys, being predominately dry and with wind speeds remaining below 5 m/s.

7.2 Sound Level Meter Specifications and Calibration Certificates

The baseline noise monitoring survey at NML1 and NM 2 was carried out using a Brüel & Kjær Type 2250 in conjunction with the following:

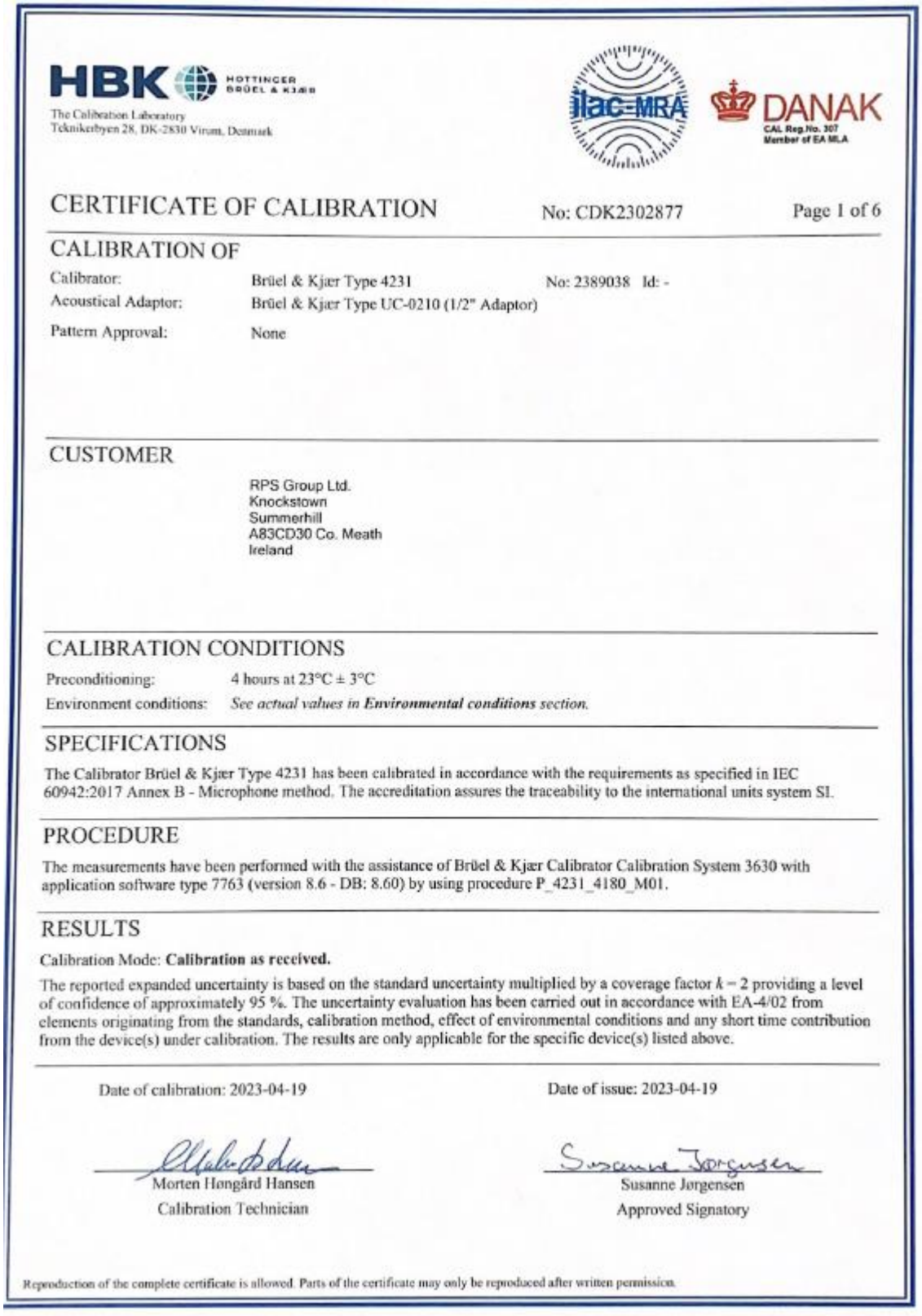
- Brüel & Kjær Type 4189 Microphone;
- Brüel & Kjær Type ZC-0032 PreAmplifer; and
- Brüel & Kjær Type 4231 Calibrator.

The sound level meter specifications from the noise survey equipment are detailed in Table 7.A.2.

Table 7.A.2: Brüel & Kjær Type 2250 Noise Instrument Records

Equipment	Model / Type	Serial Number	Calibration Certificate Number	Last Calibration Date
Sound Level Meter	Brüel & Kjær Type 2250	2690265	CDK2302913	20/04/2023
Preamplifier	Brüel & Kjær Type ZC-0032	15279	CDK2302913	20/04/2023
Microphone	Brüel & Kjær Type 4189	2748694	CDK2302913	20/04/2023
Calibrator	Brüel & Kjær Type 4231	2389038	CDK2302913	20/04/2023

The calibration certificates and sound level meter specifications from the noise survey equipment are detailed in Figure 7.A.2.



HBK HOTTINGER BRÜEL & KJÆR

The Calibration Laboratory
Teknikerbyen 28, DK-2830 Virum, Denmark

ilac-MRA DANAK CAL Reg.No. 307 Member of EA MLA

CERTIFICATE OF CALIBRATION

No: CDK2302877 Page 1 of 6

CALIBRATION OF

Calibrator:	Brüel & Kjær Type 4231	No: 2389038 Id: -
Acoustical Adaptor:	Brüel & Kjær Type UC-0210 (1/2" Adaptor)	
Pattern Approval:	None	

CUSTOMER

RPS Group Ltd.
Knockstown
Summerhill
A83CD30 Co. Meath
Ireland

CALIBRATION CONDITIONS

Preconditioning:	4 hours at 23°C ± 3°C
Environment conditions:	*See actual values in **Environmental conditions** section.*

SPECIFICATIONS

The Calibrator Brüel & Kjær Type 4231 has been calibrated in accordance with the requirements as specified in IEC 60942:2017 Annex B - Microphone method. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Calibrator Calibration System 3630 with application software type 7763 (version 8.6 - DB: 8.60) by using procedure P_4231_4180_M01.

RESULTS

Calibration Mode: **Calibration as received.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device(s) under calibration. The results are only applicable for the specific device(s) listed above.

Date of calibration: 2023-04-19 Date of issue: 2023-04-19

Morten Høngård Hansen
Calibration Technician

Susanne Jørgensen
Approved Signatory

Reproduction of the complete certificate is allowed. Parts of the certificate may only be reproduced after written permission.

Figure 7.A.2: Calibration Certificate of Brüel & Kjær Type 2250

7.3 Noise Monitoring Location

7.3.1 Photographs of the Noise Monitoring Location 1

Photographs of Noise Monitoring Location 1 are shown in Table 7.A.3.

Table 7.A.3: Photographs of Brüel & Kjær Type 2250 Sound Level Meter at NML1 from Northern, Southern, Easterly and Westerly Directions (25/05/2023)

North	East
	
South	**West**
	

7.3.2 Noise Survey Results (NML 1)

Noise Monitoring Location 1 was located on Beach Lane at the nearest residential property and adjacent to the entrance to the mobile home park, situated west of the Proposed Development for attended daytime monitoring on Thursday 25th May 2023.

7.3.2.1 Noise Monitoring Results (25/05/2023)

An attended daytime noise monitoring survey was undertaken at NML1 for three different survey periods on Thursday 25th May 2023. During each survey period, noise levels were recorded in separate 15-minute logging periods. Subjective observations were recorded during each survey period. The results from attended survey at NML1 is presented in Table 7.A.4 below.

Table 7.A.4: Noise Monitoring Results (25/05/2023)

Time	L_{Aeq}	L_{Amax}	L_{Amin}	L_{A10}	L_{A90}	Subjective Observations
Survey Period One						Local birdsong and vegetation rustle were the dominant sources. Road adjacent was quiet with one vehicle movement every couple of minutes. Aircraft flyovers were frequent and dominated when present. Resident was using chainsaw and garden trimmer during first measurement. Other sources: local activity from mobile home park, distant RTN, distant dog barking.
09:03	47.8	61.7	32.8	52.0	38.2	
09:18	48.8	64.8	31.6	50.3	36.7	
09:33	45.7	58.4	29.8	49.8	34.5	
10:03	45.5	62.1	28.8	49.8	31.9	
Survey Period Two						
11:43	41.6	59.2	28.0	44.1	30.4	
11:58	42.1	63.8	27.5	45.3	30.1	
12:13	48.5	71.7	27.6	51.5	30.7	
12:28	41.6	60.6	29.3	43.7	31.8	
Survey Period Three						
14:08	42.8	63.9	33.7	45.6	35.2	
14:23	46.8	62.8	32.7	50.0	34.8	
14:38	48.6	63.3	31.7	52.8	34.1	
14:53	45.9	60.5	32.1	49.8	35.3	

7.4 Noise Monitoring Location 2

7.4.1 Photographs of the Noise Monitoring Location 2

Photographs of Noise Monitoring Location 2 are shown in Table 7.A.5.

Table 7.A.5: Photographs of Brüel & Kjær Type 2250 Sound Level Meter at NML2 from Northern, Southern, Easterly and Westerly Directions (25/05/2023)

North	East
	
South	**West**
	

7.4.2 Noise Survey Results NML 2

Noise Monitoring Location 2 was located on Burrow Road at the nearest residential, situated north west of the Proposed Development for attended daytime monitoring on Thursday 25th May 2023.

7.4.2.1 Noise Monitoring Results (25/05/2023)

An attended daytime noise monitoring survey was undertaken at NML2 for three different survey periods on Thursday 25th May 2023. During each survey period, noise levels were recorded in separate 15-minute logging periods. Subjective observations were recorded during each survey period. The results from the attended survey at NML2 are presented in Table 7.A.6 overleaf.

Table 7.A.6: Noise Monitoring Results (25/05/2023)

Time	L_{Aeq}	L_{Amax}	L_{Amin}	L_{A10}	L_{A90}	Subjective Observations
Survey Period One						Local birdsong and vegetation rustle were the dominant sources. Road adjacent was extremely quiet with almost no vehicle movements. Aircraft flyovers were frequent and dominated when present. Other sources: distant trains passing, occasional local activity from adjacent property, distant RTN, insects buzzing, distant farming activity and distant impulsive crow-scarers.
10:32	42.8	64.6	32.0	45.5	34.4	
10:47	44.8	74.3	31.4	47.8	34.0	
11:02	48.9	63.6	32.6	53.4	35.2	
11:17	50.3	75.3	32.0	53.7	34.6	
Survey Period Two						
12:52	39.7	56.6	32.0	43.1	34.1	
13:07	47.0	67.8	32.5	49.9	35.4	
13:22	45.6	61.7	32.3	48.9	34.6	
13:37	44.9	61.4	32.0	48.0	34.9	
Survey Period Three						
15:30	39.3	55.1	33.8	41.2	35.4	
15:45	50.3	68.3	33.7	50.6	35.6	
16:00	45.9	69.6	34.3	44.3	35.8	
16:15	38.8	53.7	34.4	39.8	36.2	