S. 37

File With _____

SECTION 131 FORM

Appeal NO:_ABP 314485

TO:SEO

Defer Re O/H ☐

Having considered the contents of the submission ~~dated/~~ received 22/12/24 from Renee Barrett I recommend that section 131 of the Planning and Development Act, 2000 ~~be~~/not be invoked at this stage for the following reason(s):. no wi con

E.O.: _____ Date: 23/12/24

To EO: _____

Section 131 not to be invoked at this stage. ☐

Section 131 to be invoked – allow 2/4 weeks for reply. ☐

S.E.O.: _____ Date: _____

S.A.O: _____ Date: _____

M _____

Please prepare BP _____ - Section 131 notice enclosing a copy of the attached submission to: _____

Allow 2/3/4weeks – BP _____

EO: _____ Date: _____

AA: _____ Date: _____

S. 37

File With _____

CORRESPONDENCE FORM

Appeal No: ABP 314405

M _____

Please treat correspondence received on 22/12/25 as follows:

1. Update database with new agent for Applicant/Appellant _____
2. Acknowledge with BP 23
3. Keep copy of Board's Letter ☐

1. RETURN TO SENDER with BP _____
2. Keep Envelope: ☐
3. Keep Copy of Board's letter ☐

Amendments/Comments

4. Attach to file
(a) R/S ☐
(b) GIS Processing ☐
(c) Processing ☑
(d) Screening ☐
(e) Inspectorate ☐

RETURN TO EO ☐

	Plans Date Stamped ☐ Date Stamped Filled in ☐
EO:	AA: F. Mulhern
Date: 23/12/25	Date: 24/12/25

David Behan

From:	Renee Barnett <barnettrenee@gmail.com>
Sent:	Sunday 22 December 2024 19:48
To:	Appeals2
Subject:	Case Number PLO6F 314485 RA
Attachments:	001. 241220 Draft Decison Reply.docx; 241223 ABP Second Submission-1.pdf

Please accept the attached documents related to case 314485.

Please reply with confirmation of receipt.

Best regards,
Renee Barnett

The Secretary,
An Bord Pleanala,
64 Marlborough Street,
Dublin 1, D01 V902
Monday 23rd December 2024.

An Bord Pleanala, Case No. **PL06F 314485**
Planning Authority Case Reference. F20A/0668
Location of Planned Development. Dublin Airport.

Reply To Draft Decision by An Bord Pleanala (€50 already Paid)

Attachments. 1. Searson & Associates Acoustic Report Dated 11/12-07-23.
2. Searson & Associates Acoustic Report Dated 21/22-10-24.
3. Mr. Kenny Jacobs letter undated
4. Table 8.1 Aircraft Noise Zones, FCC, Development Plan, 2023-2029.
5,6 & 7 Location Maps and Illustrative Graphics.

References. Inspectors Draft Decision Report.
Vanguardia Report.

Dear Sir/Madam,

Thank you for your request to reply to the Inspectors Draft Decision at this stage of the Public Consultation Process, concerning the above Relevant Action (RA).

The substantive issue regarding our observation remains the same, the concerning issue of excessive aircraft noise. Attachment 1, previously submitted, is further supported by another acoustic survey conducted on the night of 21st/22nd October 2024, at three additional homes within the Blackwoods Estate, Malahide, Co. Dublin. The Blackwoods Estate is located at the junction of the R124 and Blackwood Lane, Malahide, some 5.7 kms (3.5mls) from Runway 28R and 266 metres from the Approach Flight Path of Runway 28R's Centre Line. See Graphic No 5.

Searson & Associates 1st & 2nd Acoustic Surveys Attachments 1 & 2.

Aircraft pass overhead as low as 289metres (950ft) and 396metres (1,300ft). The most common type of aircraft involved have a gross landing weight of approximately 96 tons descending overhead on a 3-degree slope, under powered slow flight; perse they are noisy.

Mr Searson's Second Report speaks for itself having recorded some 66 night-time flights, on finals for Runway (Rwy) 28R (the north runway), 10.6% of which were equal to or in excess of 80dBs L_{AFmax}. Mr. Searson makes a valid point in his report, drawing attention to the fact that all 66 flights would cause an internal bedroom reading, without adequate noise insulation, well in excess of the recommended 45 dBs L_{AFmax}. Please consult his attached report (21/22-10-2024) in conjunction with his initial report for a more studied explanation of his findings and

recommendations. Please also see Attachment Number 3 a letter in answer to the Searson Acoustic Report (1) from the DAA., CEO., Mr. Kenny Jacobs, indicating they have no intention of addressing their disturbing noise levels. Another note of interest is he did not question the acoustic findings of the Searson Report.

Point of Clarification.

Mr. Fiumicelli in his report refers to LAmax. Therefore, it is respectfully requested, for clarity's sake; is this the fast or slow metric he is referring to? Mr. Searson holds in his report that the fast metric is more appropriate to these particular acoustic events.

1 Night-time Noise and the Insufficient Lnight Metric

As alluded to by Mr. Fiumicelli, in his Vanguardia Report, so many assumptive factors, variables and operational issues must form part of the modelling for Lden and Lnight, public confidence is eroded, especially in areas of concentrated noise as it is here in Blackwoods and immediate surrounds.

We very much welcome that the Vanguardia Report and the Inspector's Report recognises that using only the Lnight metric to assess night-time noise impact is inadequate. The LAmax metric, which measures the maximum noise of individual aircraft events is critical in understanding the disturbance caused by isolated, loud overflights.

More especially for us here in Blackwoods, during night-time operations on runway 28R, where the frequency of such loud overflights can be within 2 to 3-minute intervals for hours on end, covering a period of four nights per week, mostly during the summer season when Rwy **28L** is closed for maintenance purposes. A further 3 maintenance periods, lasting for four consecutive nights each, are envisaged for the future. These periods can be broken up further due to meteorological conditions thus we are never sure of their frequency or duration.

A further point of clarification is, what designates essential maintenance?

2 Proposed Qualification Limit of 80dBs

Extract from ABP-$^{314485-22}$ Draft Decision Ref No F^{20}A/$_{0668}$

Residential dwellings subject to aircraft noise of 80 dB L_{Amax} based on the noise footprint of the airport's westerly and easterly single modes of approach and departure (not averaging the modes of operation of the airport over the 92 days of summer) between 2300 hrs and 0700hrs.

The above extract from the Draft Decision is a most welcome inclusion recognising as it does the inadequacy of the previous modelling criteria i.e.., Lden & Lnight. However, I would make the following observation.

It is not possible for the human ear to differentiate between say 76dBs and 80dbs nor for that matter 80dBs and 84dBs; they are experienced as exceptionally loud noise. Despite the very technical and complicated world of acoustic measurement, it would be fair and reasonable to assert, the average person being exposed to such levels of noise, would conclude it is very noisy indeed but not be able to distinguish between the severity of the two, other than conclude they were noisy.

Take Events 2 and 3 of Mr. Searson's Second Acoustic Report for instance. Despite both dwellings being within 160 metres of each other (approximately), both acoustic events recorded the same results for each dwelling but inversely. Neither occupant could distinguish between both aircraft, to their ears, they were disruptive noisy events. Acoustic equipment is far more sensitive and precise compared to the human ear but all eleven households within Blackwoods experience these events in the same moment, as they occur, they are disruptively noisy aircraft; all be it they have differing acoustic values. Mr. Searson records 10.6% of over flights at 80bBs or greater and 37.9% at 78dBs or greater; some 25 night-time events. I will return to this point later on in this submission.

3 Dublin Airport Authority Noise Insulation Scheme.

The current qualification for inclusion in the above scheme is a maddening 63 LAeq 16hrs and then only amounts to €20,000. In other words, the qualification is onerously hard to achieve and the grant comparatively low by comparison with the remedial cost. The figure was proffered by the DAA and endorsed by ANCA.

This figure takes no account of building size, type, location, or replication within a specific area/estate. Is the concerned premises a detached, semi-detached, or terraced dwelling or, a single apartment, one of many, within a scheme of taller buildings? How many bedrooms are involved or indeed how many family members or others reside within the premises.

Where did the grant amount originate? How was it evaluated and costed? Under such a scheme what input did relevant professional bodies like the Institute of Cost and Management Accountants or the Society of Chartered Surveyors of Ireland have? Was the figure cost indexed to take account of building materials inflation, Ireland having the highest building costs in Europe?

Not a Question of Affordability

On the other side of the equation should the RA meet with approval all those who occupy commercial premises neighbouring Dublin Airport will be the beneficiaries of significantly increased valuations, of which the DAA will enjoy the largest gains. Because of this proposed increase in passenger volumes retail trade at the airport will grow demonstrably. Some remarkably simple numbers will demonstrate my point.

The proposed increase in passenger volumes will increase by 10 million. If the current 30 million passenger cap can yield an annual profit of €176,000,000 (2023 Audited Accounts) by the same correlation 40 million passengers can yield an annual profit of €235,000,000, enough to insulate **11,750 Dwellings ANNUALLY, at a cost of €20k per Dwelling!!**

4 ANCA, Fingal County Council (FCC) and the DAA.

Fingal County Council's total budget for 2023 amounted to €333.7 million of which some €33.5 million came from commercial rates levied on Dublin Airport; some 10% of their overall budget. Outside of Government funding Dublin Airport is their single largest source of revenue. FCC are also the sole source of funding, staffing, facilities and management for ANCA (Aircraft Noise Competent Authority). In a country with an independent self-financing local authority (municipal entity) with controlling powers rested in elected officials (councillors) this may not be a significant factor. However, it is not the case here, bearing in mind Ireland is the most centrally governed country within the European Community. Our county councillors have no executive function and limited voting rights.

I site the following factors for your consideration with the caveat that such close and interlocking associations have a stimming effect on decision making, much to the detriment of Fingal's populace; especially when it comes to issues concerning the Dublin Airport Authority.

a) On 15th October 2024 Fingal County Council requested submissions for a **Dublin Airport Noise Action Plan**, primarily in my opinion as a result of An Bord Pleanala's work on the subject. This was the first time the executive sought public opinion.

b) Whilst ANCA have it within their remit to request submissions from anybody other than the DAA they have never done so, to my knowledge. On several occasions they refused to consider Mr. Searson's Acoustic Report (1) as they have sole discretion in the matter of submissions.

c) In the **Fingall Development Plan 2023-2029** the county is split into several Aircraft Noise Zones; Blackwoods is categorised in Zone B (≥54dBs <63 **LAeq** 16hrs and/or 55dB **Lnight**). Should there be a requirement for planning permission within this zone, an acoustic survey must be conducted by a suitably qualified person at the expense of the applicant, the results of which must be incorporated in any subsequent build by way of suitable noise insulation.

d) Resulting from ANCA's Noise Contour Modelling, Blackwoods, is considered to be in an 40-44 **Lnight** Zone. Considering the aforementioned c) above this is a total contradiction in realities and only benefits both the DAA and FCC to the detriment of the Fingal citizen.

e) When the aforementioned Fingal Development Plan 2023-2029 was in its final stages Fingal's elected councillors voted to include the WHO Strong Guidelines for Dwellings

Affected by Airport Noise of **Lden** 45dBs into the document; all be it vigorously opposed by the executive in the form of the County Manager. The Department of Housing and Local Government forced the executive under threat of Central Exchequer Funding Reduction to remove the clause despite public opposition.

.....

Proposed Conditions in Granting Relevant Action

1. **Point of Clarification.** Precise clarity should be stipulated as to the fast or slow metric in measuring night- time acoustic levels e.g., L_{AFmax}. or L_{ASmax}. L_{AFmax} should be the designated metric.

2. **Essential Maintenance Must be Defined and Approved.** Is it reasonable communities neighbouring the north runway (28R) should be subject to excessive night-time aircraft noise several nights in a row, for the purposes of cutting grass.

3. **2 Proposed Qualification Limit of 80dBs.** For the reasons set out in item 2 above, it is requested this condition be further enhanced, taking into consideration the following,

   a. With the exception of north Portmarnock most the dwellings along the approach flight path for Rwy., 28R, are either single residences or a small number of estates consisting of between 10 and 20 properties. Small estates similar to Blackwoods experience the aircraft noise similarly and simultaneously, after all we live cheek by jowl.

   b. When Rwy.,28R is operational for arriving aircraft they pass overhead generally at a frequency of one aircraft at between 2- and 6-minute intervals throughout the night. The second acoustic survey showed 49 of the 66 flights were in excess of 77dBs.

Proposed Remedy.

Two possible solutions with solution 1 being the preferred.

(1) An independent suitably qualified person/entity conduct an approved acoustic survey to designate areas of **Concentrated Noise** when Rwy., 28R is operational for inbound aircraft with L_{AFmax} the deciding metric to give a qualifying in bedroom noise level below 45dBs. Please refer to Mr. Searson's Second Report

(2) A condition that any dwelling disturbed by aircraft noise in excess of 76dBs more than five times in any 60-minute period should qualify for sound insulation

grant.

4. 3 Dublin Airport Authority Noise Insulation Scheme.
   Proportionality must play a part in evaluating size and scope of the noise insulation to be provided. Human Beings, Old and Young and Families are at the heart of this proposed solution. One size for all is not a remedy.

   A Suitably Approved Noise Insulation Scheme be provided by the DAA with Proportionality at its Core. Both the Size and Scope of each Insulation Project Form a Program of Works.

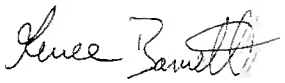
5. 4 ANCA, Fingal County Council (FCC) and the DAA.

   For the reasons stated above Aircraft Noise Monitoring MUST be placed under the stewardship of a truly INDEPENDENT body and financed by the DAA.

To conclude, thank you for accepting this submission. Yours is an onerous task made all the harder due to our system of local and municipal government. In truth much of the work and decision making forced upon you, should and could have been avoided had the required legislation been in place,

Name(printed) Renee Barnett

Address(printed) 6 Blackwoods, Blackwood Lane, Malahide, K36 Y886

Signed 

Date. 23rd December 2024.

SEARSON

ASSOCIATES

CONSULTING
ENGINEERS

KARL V SEARSON
C Eng MIEI MIOSH MIOA ACIArb

Phone (087) 2588061
(089) 2158958
Email searsonassociates@gmail.com

OUR REF: 8569/23 rev 2.1 YOUR REF: BG DATE: 5th October 2023.

Mr Bart Glover,
4, Blackwoods,
Blackwood Lane,
Malahide.
Bart@kayskitchen.ie

Re: No 4, Blackwoods: Aircraft Noise Assessment, index of noted events.

Dear Mr. Glover,

I am setting out below details of the 101 *significant events* which were recorded at/in your home over the measurement period which commenced shortly after 15:00 hours on 11th July and terminated at 09:00 hours on 22nd July 2023. During this 127 hour-odd period specific attention was paid to night time events, night-time commencing at 23:00 hours and terminating at 07:00 hours the next morning. The specific events were proximate aircraft fly-by's which provoked excessive in-bedroom noise levels. You had been advised that certain "test periods" had been selected by DAA for new flight paths and the measurement sessions were intended to analyse the levels associated with these new night-time fly-by events.

An aircraft identification application - with acronym FR - was initially used to identify those in-bedroom noise signals which characterised "events", but that application left many events unidentified. A subsequent package, with acronym WT and available on the internet, was accessed. It proved useful in reviewing the flight passes with respect to Dublin Airport during the above-mentioned measurement period and traces of specific fly-paths were noted and compared to the gathered acoustical data. It proved possible to identify the flight identification number and aircraft type and time of passage (with respect to Blackwoods) and correlate such results with the time stamp of the fast-logged acoustical data. In this respect the primary time metric was that accompanying the highest in-bedroom fast level (defined below as L_{AFmax}) and the corresponding flight, gauged from "inching" the incoming aircraft icon proximate to Blackwoods and noting the corresponding time, aircraft type and flight identification number. In all the 101 events noted, the maximum time difference between the fast logged (primary) acoustical data and the WT time display was 22 seconds. As the minimum interval between incoming flights was typically six times this interval, no significant error arises.

The acoustical data refers to both indoor and outdoor locations, the indoor location being in a bedroom with the window ajar for fresh air admission and the outdoor location being some 3,5m out from the façade of that bedroom, and at a height of 4m overground.

There are a number of acoustical metrics of interest, as follows:

- L_{AFmax}: This is the noisiest portion of an event, assessed with the fast time constant and expressed in A-Weighted decibels, dB(A).

- L_{ASmax}: This is the noisiest portion of an event, assessed with the slow time constant and expressed in A-Weighted decibels, dB(A).

- **SEL**: This is the total acoustical energy associated with a given event but normalised back to a 1-second time interval. It is expressed in A-Weighted decibels, dB(A). It is an acronym for "single event level" or, alternatively, "sound energy level".

Considerable data have been gathered and to present same in a coherent fashion I have prepared appendices showing the relevant data for each day and, additionally, tabulated the L_{AFmax} trace from outdoors and indoors directly under each other to enable the contours to be visualised. For each outdoor event provoking excessive in-bedroom levels, I have tabulated and included the above metrics. The primary time is the Brüel & Kjær time (B & K time).

I Report as follows:

1. The first series of data refers to the night-time profiles on 11th July 2023. There were six notable events, numbered accordingly, and I have tabulated the metrics, times and details in table 1A, below. I have also prepared and attached, as appendix 1, the Comparative fast trace, 23:29 – 00:00, 11th July 2023.This trace depicts the outdoor profile in the upper (1A) portion and, directly below, the corresponding provoked in-bedroom level (1B).

TABLE 1: 6 noted events of 11th July, # 1 - #7.

				OUTDOORS - A			INDOORS - B		
#	B & K time	WT Flight Id.	Type	SEL	L_{AFmax}	L_{ASmax}	SEL	L_{AFmax}	L_{ASmax}
1	23:31:27	RYR2PC	B738	85	76	73	65	56	55
2	23:33:38	EIN40W	A320	86	81	77	67	61	59
3	23:36:24	GEC 8582	A321	85	77	75	66	59	57
4	23:39:24	EIN611	A320	86	79	77	66	61	58
5	23:47:02	RYR9M	B738	85	79	76	65	60	58
6	23:50:43	EIN24K	A320	87	79	77	67	60	58
7	23:57:57	SWR878C	BCS3	83	73	71	62	54	53

The above table give a useful insight into the reduction in certain acoustic metrics going from outside to inside via a window ajar for ventilation (fresh air admission). While the SEL values have a significant effect on the 5-minute (or 15-minute) L_{AEQ} level obtained, the maximum values (fast or slow) are subject to a numerical ceiling. This ceiling applies during night-time, from 23:00 to 07:00 hours, and, in the case of the L_{AFmax}, the in-room level should not exceed 45 dB(A) and in the case of the L_{ASmax}, the level should not exceed (about) 42 dB(A).

Taking the two periods from the 23:00 hours until 23:30 (no significant events) and the following period from 23:30 until midnight (7 notable events as set out above), there are significant differences. Via the B&K Evaluator software the following results a have been established:

TABLE 2: 30-minute night-time comparisons, no events Vs 7 events

		OUTDOORS - A			INDOORS - B		
Time (T)	Events ?	L_{AeqT}	L_{AFmax}	L_{ASmax}	L_{AeqT}	L_{AFmax}	L_{ASmax}
23:00 – 23:30	No	47	63	60	27	42	39
23:30 – 00:00	Yes, 1 - 7	61	81	77	42	61	59

There are good and reliable criteria for a bedroom, at night, with fresh air admission. The L_{AeqT} (sometimes called the decibel average) should not exceed 30 dB(A), and this should be maintained for the duration of the night. The first 30-minute test (no events) has all three metrics comfortably within their guideline values. Once the "events" occur (itemised and recorded as 1 to 7) those levels are *grossly* exceeded.

2. The next day (in a 24-hour sense) was 12th July. 32 night-time events were noted, and their combined result are set out in table 2 below:

TABLE 2: parts 1 & 2, 32 noted events of 12th July, #8 - #40.

				OUTDOORS - A			INDOORS - B		
#	Time	WT Flight Id.	Type	SEL	L_{AFmax}	L_{ASmax}	SEL	L_{AFmax}	L_{ASmax}
8	00:00:23	RYR4YC	A320	83	75	73	66	61	58
9	00:03:05	RYR2WK 779	B38M	83	76	73	64	58	55

10	00:08:24	EIN70V	B752	92	86	82	70	62	59
11	00:11:27	RYR5YV	B738	87	80	78	67	61	58
12	00:14:56	RYR11YP	B738	85	76	74	66	59	57
13	00:18:01	EIN459	A320	86	76	74	66	61	59
14	00:26:38	RYR9QY	B738	86	79	76	66	58	57
15	00:29:21	RYR275Y	B38M	84	78	75	64	57	55
16	00:31:55	RYR56SP	B738	85	76	73	66	59	57
17	00:34:44	RYR38ZY	B738	85	78	75	65	60	57
18	00:38:00	RYR72GD	B738	86	78	76	66	59	58
19	00:40:26	RYR4JW	B38M	83	74	73	64	56	55
20	00:42:58	RYR212	7M8	85	77	74	65	58	56
21	00:45:49	EIN4RL	A320	86	80	77	67	60	58
22	00:48:13	RYR8Q2	B38M	83	80	77	65	56	54
23	00:51:14	RUK95CX	B738	85	76	74	65	58	56
24	00:57:24	EIN4GJ	A320	87	79	76	67	61	58
25	01:01:59	EIN43N	A320	89	79	76	67	62	58

TABLE 2: Continued.

				OUTDOORS - A			INDOORS - B		
#	Time	WT Flight Id.	Type	SEL	L_{AFmax}	L_{ASmax}	SEL	L_{AFmax}	L_{ASmax}
26	01:04:07	EIN7VT	A320	89	79	72	66	60	58
27	01:06:48	RYR927E	B38M	83	75	72	63	57	54
28	01:09:50	RYR8L	B738	84	79	76	64	60	57
29	01:13:42	RYR6VL	B738	84	76	74	65	59	57
30	01:21:39	TOM239	A320	85	79	76	66	61	58
31	01:25:10	EIN799	A320	86	78	76	66	60	58
32	01:27:37	AZD358	AT72	87	80	76	66	59	56
33	01:30:41	EIN499	A320	87	79	77	67	62	59
34	01:38:43	EIN38JC	A320	86	79	76	67	60	58
35	01:51:06	EIN5HL	A320	87	81	78	67	63	60
36	01:54:10	EIN44Y	A320	87	80	77	68	63	60
37	02:10:53	EIN584	A320	86	79	77	67	60	58
38	02:16:10	EIN56V	A320	87	81	78	67	62	59
39	02:20:57	EIN34V	A320	87	79	77	67	61	59
40	04:25:50	EIN104	A333	89	79	77	69	61	59

Appendices 2, parts 1 and 2, show the indoor and outdoor traces. Considerable air traffic movements ensued from just after midnight (event #8) until 02:22 (event #39). A single event (#40) occurred at 04:25 - 04:27 hours.

3. The next few days – until the early hours of 18th July - passed without any ***significant*** night-time events occurring.

4. A single event occurred in the early hours of 18th July. There were other signature passes both before and after the particular event, but the in-room level associated therewith were all below the threshold L_{AFmax} level of 45 dB(A). Appendix 3 details the relevant combined trace, the results being set out in table 3 below

TABLE 3: Noted single event of 18th July.

				OUTDOORS - A			INDOORS - B		
#	Time	WT Flight Id.	Type	SEL	L_{AFmax}	L_{ASmax}	SEL	L_{AFmax}	L_{ASmax}
41	01:41:41	AZD358	AT72	77	70	66	58	55	51

5. There were no notable event on 19th July.

6. The 20th July proved to be particularly busy - from the point of view of notable events. A total of 30 events were recorded and analyzed. Appendix 4, the comparative L_{AFmax} traces, is broken down into three parts, the tabular data being set out below in table 4:

TABLE 4: parts 1, 2 & 3, noted events of 20th July, #42 - #72.

				OUTDOORS - A			INDOORS - B		
#	Time	WY Flight Id.	Type	SEL	L_{AFmax}	L_{ASmax}	SEL	L_{AFmax}	L_{ASmax}
42	00:53:55	RYR275Y	B738	85	75	74	64	57	55
43	00:55:58	RYR7120	B38M	85	75	74	65	61	57
44	00:58:17	RYR77JN	B738	84	75	74	64	57	56
45	01:00:42	TOM7DX	A320	82	72	71	62	54	53
46	01:00:42	RYR1391	B738	84	74	74	65	57	56
47	01:04:54	EIN4RL	A320	84	75	74	65	57	56
48	01:09:04	RYR7FL	B738	85	75	74	65	58	57
49	01:11:34	RYR6E	B738	85	75	75	65	56	55
50	01:13:48	RYR30UE	B738	85	77	76	65	58	56
51	01:18:32	EIN499	A320	85	78	76	65	60	58
52	01:25:56	AZD 358	AT72	84	74	73	654	55	54
53	01:29:17	EIN58R	A320	84	75	74	665	57	56
54	01:40:23	RYR3TD	B38M	84	74	73	64	55	54

TABLE 4: continued.

				OUTDOORS - A			INDOORS - B		
#	Time	WT Flight Id.	Type	SEL	L_{AFmax}	L_{ASmax}	SEL	L_{AFmax}	L_{ASmax}
55	02:26:54	TOM3HD	A320	83	73	72	63	54	53
56	02:43:38	EIN5HL	A320	84	75	75	65	56	55
57	03:43:46	EIN104	A333	86	76	75	66	58	57
58	04:00:08	AAL724	B772	87	76	75	66	57	56
59	04:04:07	EIN1TC	A21N	83	73	72	63	54	53
60	04:13:28	EIN13K	A333	87	77	76	67	58	57
61	04:27:58	BCS2886	B734	87	78	78	67	60	59
62	04:37:25	FPO7SN	B738	86	81	79	66	62	60
63	04:39:45	UPS248	B763	86	76	75	66	57	56
64	04:42:51	BCS5QC	A321	85	77	76	66	58	57
65	23:36:18	RYR66PG	B738	83	72	71	63	54	53
66	23:38:30	5F711	A320	85	77	75	65	59	57
67	23:41:01	RYR45HY	B738	86	78	76	66	60	57
68	23:43:30	RYR3CH	B738	84	74	73	64	56	55
69	23:46:22	GEC8352	A321	84	75	74	64	56	55
70	23:50:42	RYR1SB	B38M	84	75	74	64	56	55
71	23:55:58	RYR86EY	B38M	84	75	74	64	56	55
72	23:58:25	RYR51JX	B38M	84	73	72	63	55	54

7. The pattern of notable events carried on into the early hours of 21st July. A further 28 events were noted and analyzed. Appendix 5, divided into two parts, sets out the comparative **L_{AFmax}** traces with the individual results being tabulated in table 5 below.

TABLE 5, parts 1& 2, 28 notable events of 21st July.

				OUTDOORS - A			INDOORS - B		
#	Time	WT Flight Id.	Type	SEL	L_{AFmax}	L_{ASmax}	SEL	L_{AFmax}	L_{ASmax}
73	00:00:49	EIN3AV	A320	85	78	76	66	59	57
74	00:03:44	RYR9QY	B738	85	76	75	65	57	56
75	00:06:13	RYR45TC	B38M	83	74	73	63	55	53
76	00:08:59	EIN70V	B752	89	82	79	69	62	59
77	00:11:42	EIN7VT	A320	84	77	75	65	57	55
78	00:13:50	RYR8CK	B738	85	75	74	65	57	56
79	00:16:05	RYR2BY	B38M	85	76	75	63	55	54
80	00:18:36	EIN76HJ	A320	84	75	74	65	57	56
81	00:21:23	RYR2WK	B738	85	76	75	64	56	55
82	00:23:34	EIN799	A320	85	76	75	65	58	57
83	00:26:44	EIN38JC	A320	85	76	75	65	57	56
84	00:29:29	RYR7BW	B738	85	76	75	65	59	57
85	00:32:19	TAP26T	E190	84	77	75	65	59	57

86	00:39:49	FIA711	A320	86	77	76	66	58	57
87	00:50:57	NYX300	SF34	80	70	69	59	50	49
88	00:53:55	RYR8TE	B738	85	75	74	65	56	55
89	00:56:22	RYR38ZG	B38M	84	73	72	64	56	54
90	00:59:07	EIN4GJ	A320	85	76	76	66	58	57
91	01:01:42	RYR87YJ	B738	85	75	74	65	57	56
92	01:11:13	RYR11YP	B738	85	76	74	65	58	56
93	01:15:18	EIN56V	A320	85	78	76	66	60	58
94	01:22:29	AZD358	AT72	84	76	74	63	54	52
95	01:42:49	EIN58R	A320	85	76	75	65	59	57
96	02:00:48	EIN499	A320	85	78	76	66	59	58
97	02:03:45	EIN5HL	A320	85	77	75	65	59	57
98	03:31:45	TOM59H	A320	83	73	72	63	55	54
99	03:57:35	EIN104	A333	88	79	77	68	60	59
100	04:09:32	AAL724	B772	87	77	75	67	58	57
101	04:13:52	EIN13K	A333	88	78	77	68	60	58

8. The above results – and appendices – indicate a clear and significant issue in respect of the given events. You have indicated that the DAA e-contacted you (and others) indicating that "tests" were being conducted.

9. From my interpretation of the WT trace, these events are all associated with incoming aircraft, at night, availing of the North Runway.

10. The crux of the night-time issues, in respect of the 101 events tabulated above, mean that each and every one of the above tests provoked in-bedroom noise levels well in excess of the published levels geared towards a good night's sleep. Furthermore, on the occasions when these tests were ***not being conducted*** proper and suitable levels were measured, post 23:00 hours, in your bedroom, the window ajar for fresh air admission.

11. These findings are applicable to your immediate neighbours, assuming they rely on natural ventilation for fresh air admission.

12. Even were the tests to have been conducted for potential "emergency" or "one-off operational conditions", the data, now to hand, means that ***unless*** and ***until*** significant upgrades/modifications to your home (and that of your immediate neighbours) are completed (thereafter being suitably commissioned, confirmed and maintained) these flight paths must not be availed of.

Yours sincerely,

Karl Searson

Chartered Engineer.

SEARSON

ASSOCIATES

CONSULTING
ENGINEERS

KARL V SEARSON
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OUR REF: 8569/23 YOUR REF: BG DATE: 17th December 2024.

Mr Bart Glover,
4, Blackwoods,
Blackwood Lane,
Malahide.
Bart@kayskitchen.ie

Re: Nos 3, 6 & 10 Blackwoods: Arrival Aircraft Noise Assessment.

Dear Mr. Glover,

Facilities having been secured I attended at the above three properties and installed calibrated and certified Bruel and Kjær instrumentation to conduct ***external*** noise measurements during the week when it was anticipated that arriving aircraft were to land on the new (North) runway. Attention was focussed, in the first instance, on flights arriving at night-time, that is to say, from 23:00 hours until 07:00 hours the next morning.

Measurements were commenced at No 3, The Kelly home, on the evening of Monday 21st October 2024. Similarly, measurements were commenced at No 6, the Barnett home, at much the same time. Measurements were commenced at No 10, the Fennelly home, on Tuesday, 22nd October shortly before 22:00 hours.

The instruments (all within current Laboratory certification) were time-synchronised and field calibrated prior to the measurements commencing and, on the conclusion of these tests, shortly after noon on Friday 25th October, were calibrated again, with no significant drift occurring.

The combined data, totalling 200 hours, was screened and the total period of a) ***night-time*** and b) ***Arrivals to the North Runway***, were focussed on. A total of 66 events were identified and with assistance of Bart Glover's notes and study of certain other available data these events were examined and the noise metric data (from the three time-synchronised, outdoor monitoring Analyzers) were noted and compared. I report as follows:

1. The main metric considered was the L_{AFmax}, the maximum noise level, assessed with the fast time constant. Additional data, such as the SEL – Sound Energy Level – is available and kept on file but is not, *at this stage*, germane to the issue at hand. The issue at hand relates to the in-bedroom arrival level of the external L_{AFmax} provoked by the arrival of an incoming night flight on the North Runway.

2. On the basis that these houses have ordinary windows or vents ajar for ventilation and fresh air admission, the relationship between the outside-to-inside attenuation (or reduction) that a small window, ***ajar***, will provide has been well-established in the Report prepared for Mr Bart Glover, dated 5th October 2023. A reduction of, typically 19 dB(A) has been established and this is in keeping with data I have personally gathered over many years of focussed work on this particular issue.

3. While the addition of decibels can appear somewhat complex, the level difference is this case is a straightforward arithmetic process. In the event that a max in-bedroom level of 45 dB(A) is required to be achieved, with a small window ajar for ventilation, then the exterior arrival level of that metric, measured at a distance of 2 – 3 m from the window and 2 – 3 m overground should not exceed (45 + 19) i.e. ***about*** 64 dB(A).

4. The data in respect of the night-time exterior L_{AFmax} metric (nearest integer), the time, the location, together with the reported type of aircraft are tabulated as follows:

TABLE 1

Event #, time, location, L_{AFmax}, (reported) aircraft type, tabulate as follows:

				External L_{AFmax} generated , dB(A) at stated property.		
Event #	Date	Time	Type	No 3, Blackwoods	No. 6 Blackwoods	No 10 Blackwoods
1	21st Oct 2024	23:42	B738	77	76	-
2	21st Oct 2024	23:46	B738	80	78	-
3	21st Oct 2024	23:52	A320	78	80	-
4	21st Oct 2024	23:50	B738	78	78	-
5	21st Oct 2024	23:59	B738	78	76	-
6	22nd Oct 2024	00:01	B738	78	76	-
7	22nd Oct 2024	00:21	B738	77	79	-
8	22nd Oct 2024	00:24	A320	79	79	-
9	22nd Oct 2024	00:26	B738	78	78	-
10	22nd Oct 2024	00:29	A320	78	77	-
11	22nd Oct 2024	00:32	B738	74	77	
12	22nd Oct 2024	00:34	A320	78	78	-
13	22nd Oct 2024	00:37	B738	81	77	-
14	22nd Oct 2024	00:42	B738	79	77	-
15	22nd Oct 2024	00:44	B738	77	75	-

16	22nd Oct 2024	00:51	B738	77	77	-
17	22nd Oct 2024	00:59	B738	78	79	-
18	22nd Oct 2024	01:08	B738	76	81	-
19	22nd Oct 2024	01:22	A320	78	78	-
20	22nd Oct 2024	01:24	B738	78	78	-
21	22nd Oct 2024	01:42	B738	76	77	-
22	22nd Oct 2024	01:45	B738	76	75	-
23	22nd Oct 2024	02:03	C650	81	83	-
24	22nd Oct 2024	03:22	A333	78	77	-
25	22nd Oct 2024	04:04	A333	80	78	-
26	22nd Oct 2024	04:21	B752	76	78	-
27	22nd Oct 2024	04:24	B772	77	75	-
28	22nd Oct 2024	04:29	B734	82	80	-
29	22nd Oct 2024	23:08	A321	76	74	72
30	22nd Oct 2024	23:11	B738	74	73	72
31	22nd Oct 2024	23:13	B738	76	74	73
32	22nd Oct 2024	23:16	A320	76	75	74
33	22nd Oct 2024	23:18	B738	73	72	70
34	22nd Oct 2024	23:21	?	73	72	70
35	22nd Oct 2024	23:27	B738	74	73	73
36	22nd Oct 2024	23:32	B738	76	73	74
37	22nd Oct 2024	23:37	A320	74	76	74
38	22nd Oct 2024	23:46	B738	73	74	73
39	22nd Oct 2024	23:52	B738	77	75	74
40	22nd Oct 2024	23:56	B738	74	73	73
41	24th Oct 2024	00:04	B738	77	76	75
42	24th Oct 2024	00:12	A320	76	75	73
43	24th Oct 2024	00:20	B738	74	73	71
44	24th Oct 2024	00:25	B738	74	74	73
45	24th Oct 2024	00:28	B738	76	75	73
46	24th Oct 2024	00:30	A320	76	75	74
47	24th Oct 2024	00:32	B738	77	75	74
48	24th Oct 2024	00:34	B738	75	74	76
49	24th Oct 2024	00:36	A320	75	76	72
50	24th Oct 2024	00:38	B738	74	75	74
51	24th Oct 2024	00:41	B738	74	74	73
52	24th Oct 2024	00:43	B738	75	75	73
53	24th Oct 2024	00:46	A320	78	75	73
54	24th Oct 2024	00:49	B738	76	74	75
55	24th Oct 2024	00:52	A320	75	73	73
56	24th Oct 2024	00:57	A320	75	73	73
57	24th Oct 2024	01:27	B738	74	73	72
58	24th Oct 2024	01:30	A320	76	75	73
59	24th Oct 2024	01:50	C650	72	71	70
60	24th Oct 2024	01:54	A320	76	76	74
61	24th Oct 2024	03:24	B738	73	75	76
62	24th Oct 2024	03:30	A333	75	75	72
63	24th Oct 2024	03:55	A333	79	76	77
64	24th Oct 2024	04:17	B772	75	72	73
65	24th Oct 2024	04:25	B752	73	78	76
66	24th Oct 2024	04:31	B734	79	78	76

The above table indicates that ***each*** and ***every one*** of the referenced 66 flights generates arrival L_{AFmax} levels, adjacent to all the properties (including that of Mr Glover, No 4, discussed in the earlier Report) notably ***above*** 64 dB(A).

5. Within the detailed supplied documentation, the metric dealing with the "maximum level" has been referred to several times including in the Vanguardia Report (prepared on behalf of APB)

and also in the Report of Prof. Penzel (prepared on behalf of the DAA). In each case there is a lack of clarity as to which particular metric is being referred to: there are two distinct metrics. The maximum level measured with the ***fast*** time constant is denoted L_{AFmax}, and the maximum level measured with the ***slow*** time constant is denoted L_{ASmax}. In my initial Report I went to lengths to ensure that these metrics were correctly and properly identified and distinguished. In the above data I have clarified beyond all doubt that the metric of specific interest and relevance in this case is the L_{AFmax}.

6. On a historical level I gave evidence to and indeed cross-examined the experts on behalf of the applicants during the initial Oral Hearing and brought this point into sharp focus. I had measured the maximum levels at certain clients' homes under ***both*** fast and slow time constants and quite significant differences up to 4 or 5 dB(A) arose for the same aircraft fly-by. Furthermore, I was the first specialist who measured both indoors and outdoors simultaneously. This technique formed the basis for my first report to Mr Glover which dealt with measurements at his home in the middle of the Blackwoods estate, during which aircraft were ***landing*** on the North Runway. That Report is *taken as read* within the contest of this Report

7. My recollection at the time of the preliminary oral hearing was that this issue was never canvassed by the applicants; it only surfaced consequent on actual landings commencing and the disturbance provoked to residents, especially within the Blackwoods community.

8. In his recommendations to the APB, Mr Fiumicelli recommend the introduction of a 3rd qualifying stand-alone criteria for noise insulation for all residences subjected to a night-time arrival level of noise level "*of L_{Amax} 80 dB(A)*". On the basis of my measurements this metric ought to be *clarified* and *interpreted* and *applied* as L_{AFmax}.

9. Furthermore, the attenuation of a window ajar, for fresh air admission is, and has been repeatedly measured, at about 19dB(A). The stand-alone criteria of 80 dB(A) – even accepting the lower threshold of L_{ASmax} (several dB(A) *below* the L_{AFmax} value for the same event) - will lead to a probable in-bedroom level of about (80 – 19) i.e. 61 dB(A) for L_{ASmax}. The current preferred and recommended level for this metric, for a bedroom at night, is about 42 dB(A). An arrival level of maximum noise which exceeds the recommended thresholds (for both ***fast*** and ***slow***) measurements by amount - about 19 dB(A) - cannot, in my opinion, be countenanced. A much greater reduction – to achieve the correct in-bedroom level appropriate for night-time conditions (with fresh air admission) - is required.

10. I disagree with the concluding remarks - and underlying implications – of Prof. Penzel. The good Engineering guidance and established practices for designing and achieving ceiling night-time in-bedroom levels of L_{AFmax} (together with appropriate in-room 15-minute or hourly equivalent levels, denoted $L_{Aeq\ (15\ mins)}$ or $L_{Aeq\ (1\ hour)}$) are well-established, widely known and regularly used*. The 15-minute, hourly, or even 8-hourly, levels are not the critical issue in this assessment. The critical issue in this application is the provoked in-bedroom night-time arrival level of the L_{AFmax}, arising from and solely attributable to aircraft landing on the North runway. This has had serious sleep-disturbing effect on my clients, namely those in Nos 3, 4, 6 and 10, Blackwoods.

*As an exercise I have extracted the data and computed the following hourly levels from the below periods during which aircraft landed :

No 3: L_{Aeq}(1 hour), 23:00 – 00:00, 22nd Oct =	60 dB(A),
No 3: L_{Aeq}(1 hour), 00:00 – 01:00, 23rd Oct =	61 dB(A),
No 6: L_{Aeq}(1 hour), 23:00 – 00:00, 22nd Oct =	58 dB(A),
No 6: L_{Aeq}(1 hour), 00:00 – 01:00, 23rd Oct =	59 dB(A),
No 10: L_{Aeq}(1 hour), 23:00 – 00:00, 22nd Oct =	59 dB(A),
No 10: L_{Aeq}(1 hour), 00:00 – 01:00, 23rd Oct =	61 dB(A).

These levels must be viewed against the other relatively quiet (i.e. no aircraft landing) features of the remaining night time hours during which few landings occurred. These "quieter" hours will have a reducing (albeit small) effect on the overall 8-hour L_{night} level. It is a useful comparison the consider the corresponding 1-hour periods of 23rd and 24th October, the period during which *no arrivals* at the North runway took place. These ***no-arrivals*** hourly periods have the following results.

No 3: L_{Aeq}(1 hour), 23:00 – 00:00, 23nd Oct =	50 dB(A),
No 3: L_{Aeq}(1 hour), 00:00 – 01:00, 24th Oct =	45 dB(A),
No 6: L_{Aeq}(1 hour), 23:00 – 00:00, 23rd Oct =	51 dB(A),
No 6: L_{Aeq}(1 hour), 00:00 – 01:00, 24th Oct =	47 dB(A),
No 10: L_{Aeq}(1 hour), 23:00 – 00:00, 23rd Oct =	53 dB(A),
No 10: L_{Aeq}(1 hour), 00:00 – 01:00, 24th Oct =	49 dB(A).

It is for these reasons that targeted control over the arrival level, in the bedroom, at night, of the L_{AFmax} is the most effective method of controlling and suitably abating the otherwise serious intrusion that the measured outdoor arrival levels (and by logical and appropriate conversion into indoor, in-bedroom levels) will otherwise have.

11. Were the Applicants in this case to coherently and squarely address the realities of the provoked in-bedroom L_{AFmax} levels generated from their landing activities and engage constructively with the disturbed residents identified above, the matter of carefully thought out, properly planned, professionally tested and neatly installed attenuation measures could suitably supress the provoked in-bedroom levels to the targeted threshold of $L_{AFmax} \leq 45$ dB(A).

12. This is the technical challenge facing the DAA; it is a real challenge but with proper professional and focussed Engineering input, this challenge can be met, tackled and overcome, to the benefit of all parties involved.

13. Finally, it is my respectful submission to the Board that they adjure the Applicants to achieve this target by appropriate conditions. Such conditions, when complied with, will enable the type of night-time arrivals, measured in the 66 events recorded and discussed above, to recur in the

future ***without*** generating intrusion, negative impact or significant disturbance to the occupants of the 4 properties assessed.

Yours sincerely,

Karl Searson

Chartered Engineer.

Kenny Jacobs
Príomhfheidhmeannach
Chief Executive

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Mr & Mrs Glover
Millennium
Blackwoods
Blackwood Lane
Malahide
K36 HP30

By email only: bart@kayskitchen.ie

Re: Blackwoods Estate, Malahide, Co. Dublin

Dear Mr and Mrs Glover,

I am writing to you in response to your letter of 17 November 2023 which included an attached report by Searson Associates. The report provided the results of both outdoor and indoor noise measurements captured between 11 July and 22 July 2023, with specific attention being paid to noise events occurring between the hours 23:00 and 07:00.

My team has assessed this report in detail – a key point of note is that at key intervals during this monitoring period, Dublin Airport was undertaking essential maintenance works on its South Runway which meant that North Runway was temporarily in operation. During normal operations, North Runway is not used during the period 23:00 and 07:00. This is reflected in an analysis of aircraft movements for the first ten months of this year which showed that of the approximate total 203,000 aircraft movements at Dublin Airport, only 679 (or 0.3%) used the flight tracks adjacent to your home.

Outlined below, is further information and context which I hope you find useful:

1. **<u>Runway Operations</u>**

One of the conditions attached to the grant of planning for North Runway, is that during westerly wind conditions, when aircraft approach the airport from the east, the preferred landing runway is the South Runway (28L). These westerly operations occur 70 to 80% of the time at Dublin Airport. Furthermore, under easterly wind conditions, the preferred departure runway is the South Runway (10L).

In combination, these planning conditions mean that under normal operations (day and night) neither arrivals from the east on South Runway nor departures to the west on North Runway would track near your home - the distance to the centreline of the South Runway from your Eircode is approximately two kilometres.

Under certain exceptional circumstances, such as when maintenance works make the South Runway unavailable, aircraft will track along the centreline of the North Runway which is nearer your home.

2. Essential Maintenance Works

Dublin Airport, like all airports across Europe, must comply with prescriptive infrastructure standards as outlined under EU Regulation 139/2014. In addition, we must follow Acceptable Means of Compliance and Guidance Material issued by the European Aviation Safety Agency (EASA).

The airport must therefore conduct regular essential maintenance works on its runways. When these works are being conducted, it requires the closure of the runway in question to allow works to be completed safely and efficiently. Essential maintenance works on the airport's South Runway has always been conducted. Before North Runway was operational, the Cross Wind runway would have been used during these periods. In compliance with a further condition attached to the grant of planning for North Runway, the Cross Wind Runway may now be used on a limited basis only and primarily as a taxiway, therefore North Runway is used for operations when South Runway is closed. It is important to note that the use of North Runway whilst South Runway is closed for essential works is permitted under planning.

3. Aircraft Movements

For the first 10 months of 2023, there were an approximate total of 203,000 aircraft movements in and out of Dublin Airport.

The table below presents the division of these movements by runway and operational direction. This shows that there were 586 arrival aircraft movements approaching the North Runway from the east (towards Runway 28R), that is, arrivals on the track passing near your home. Of these, 457 were at night (2300-0700), including the 101 events included in the report attached to your letter.

Departures on the North Runway operating in the easterly direction (from Runway 10L) can also pass over your area. In January to October 2023, there were 93 of these departures.

Operation	Runway	Direction	RW	Movements	Percentage of total	Near K36 HP30
Arrivals	North	From east	28R	586	0.3%	Yes
		From west	10L	17931	8.8%	
	South	From east	28L	70853	34.9%	
		From west	10R	11975	5.9%	
Departures	North	To east	10L	93	0.05%	Yes
		To west	28R	48742	24.0%	
	South	To east	10R	29915	14.8%	
		To west	28L	22650	11.2%	

In short, out of the 203 000 movements at Dublin Airport, 679 (or 0.3%) used the flight tracks adjacent to your home. Clearly the measurements at your home on those nights in July are not representative of the typical level of aircraft activity.

4. Sound Insulation

The report attached to your letter mentions "significant upgrades/modifications to your home" which I would expect is referring to improving the sound insulation.

Dublin Airport has been implementing a programme to upgrade the noise insulation performance of existing homes impacted by aircraft noise. The noise threshold level to qualify for the residential fit-out programme is 63 dBA Leq,16hr (assessed during the 0700-2300 day time hours of the summer season.) Based on the 2022 noise contours, Blackwood Lane lies well outside the lowest reported contour of 51 dBA Leq,16hr, which is below the threshold.

Depending on the outcomes from current legal and planning process, daa maybe soon be implementing a new Grant Scheme for homes impacted by night-time noise. The draft threshold for the proposed scheme is 55 dBA Lnight (based on an annual average). Based on the 2022 contour report, the indicated Lnight at Blackwood Lane was approximately 40 dBA Lnight, again below the eligibility threshold for this proposed scheme.

On a final point, the acoustic report (Section 1) refers to two design levels, namely "LAeqT... should not exceed 30dBA" and "LAS max should not exceed (about) 42 dBA". It is important to note that these are design criteria but are not legal requirements that the airport is required to meet.

While I appreciate that you are impacted by heightened noise levels on those occasions when the flight tracks near your home are in use, I would reiterate that, due to the use of preferential runways at Dublin Airport, these tracks are used only under exceptional circumstances and in 2023 this has been for only 0.3% of all movements.

I trust that you find the information that we have provided useful. I attach some further information on noise mitigation at Dublin Airport and please feel free to contact us again if you have any further queries,

Yours sincerely,

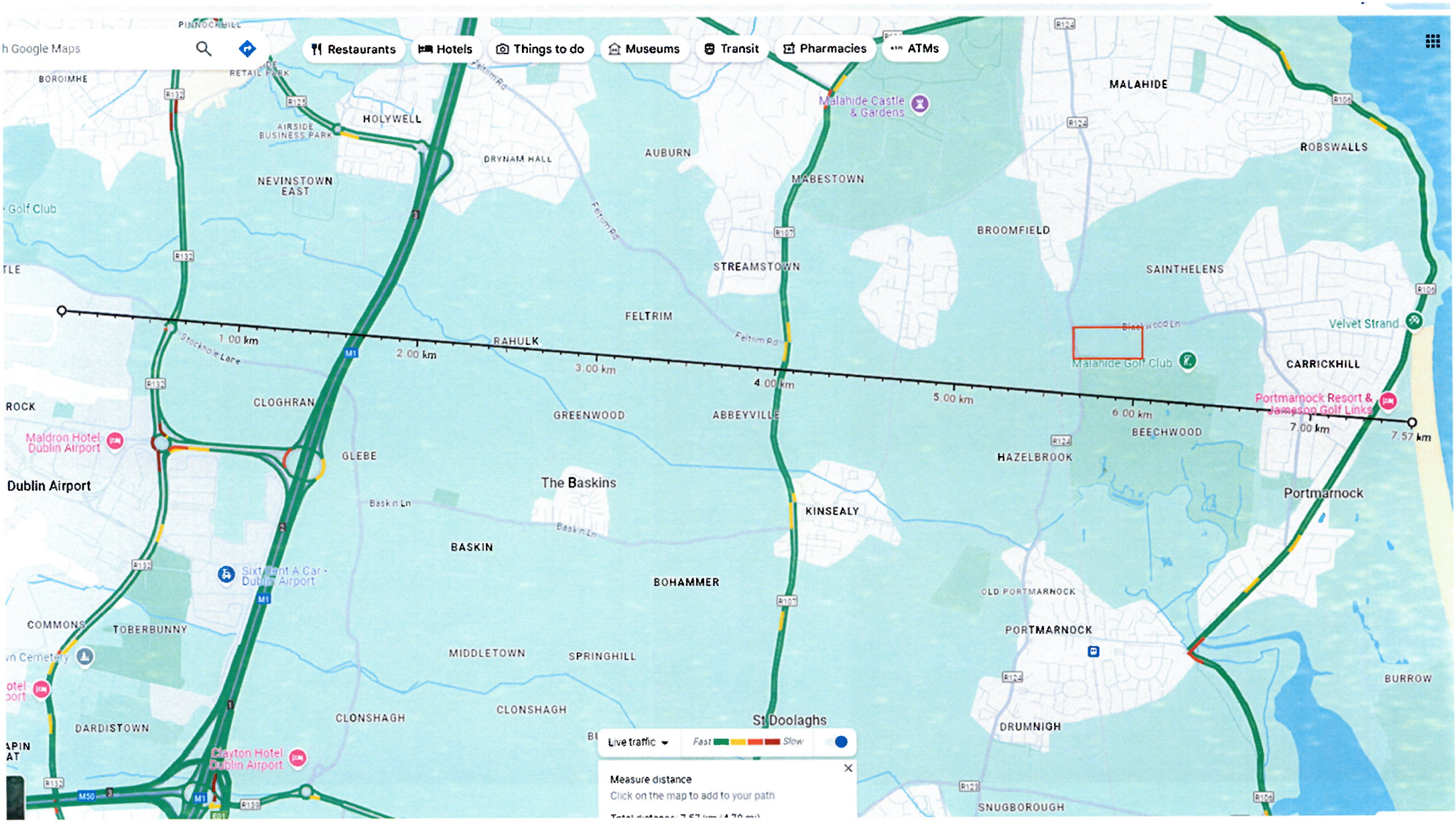
Kenny Jacobs
Chief Executive

Table 8.1: Aircraft Noise Zones

Zone	Indication of Potential Noise Exposure during Airport Operations	Objective
D	≥ 50 and < 54 dB LAeq, 16hr and ≥ 40 and < 48 dB Lnight	To identify noise sensitive developments which could potentially be affected by aircraft noise and to identify any larger residential developments in the vicinity of the flight paths serving the Airport in order to promote appropriate land use and to identify encroachment. All noise sensitive development within this zone is likely to be acceptable from a noise perspective. An associated application would not normally be refused on noise grounds, however where the development is residential-led and comprises non-residential noise sensitive uses, or comprises 50 residential units or more, it may be necessary for the applicant to demonstrate that a good acoustic design has been followed. Applicants are advised to seek expert advice.
C	≥ 54 and < 63 dB LAeq, 16hr and ≥ 48 and < 55 dB Lnight	To manage noise sensitive development in areas where aircraft noise may give rise to annoyance and sleep disturbance, and to ensure, where appropriate, noise insulation is incorporated within the development Noise sensitive development in this zone is less suitable from a noise perspective than in Zone D. A noise assessment must be undertaken in order to demonstrate good acoustic design has been followed. The noise assessment must demonstrate that relevant internal noise guidelines will be met. This may require noise insulation measures. An external amenity area noise assessment must be undertaken where external amenity space is intrinsic to the development's design. This assessment should make specific consideration of the acoustic environment within those spaces as required so that they can be enjoyed as intended. Ideally, noise levels in external amenity spaces should be designed to achieve the lowest practicable noise levels. Applicants are strongly advised to seek expert advice.
B	≥ 54 and < 63 dB LAeq, 16hr and ≥ 55 dB Lnight	To manage noise sensitive development in areas where aircraft noise may give rise to annoyance and sleep disturbance, and to ensure noise insulation is incorporated within the development. Noise sensitive development in this zone is less suitable from a noise perspective than in Zone C. A noise assessment must be undertaken in order to demonstrate good acoustic design has been followed. Appropriate well-designed noise insulation measures must be incorporated into the development in order to meet relevant internal noise guidelines. An external amenity area noise assessment must be undertaken where external amenity space is intrinsic to the developments design. This assessment should make specific consideration of the acoustic environment within those spaces as required so that they can be enjoyed as intended. Ideally, noise levels in external amenity spaces should be designed to achieve the lowest practicable noise levels. Applicants must seek expert advice.
A	≥ 63 dB LAeq, 16hr and/or ≥ 55 dB Lnight	To resist new provision for residential development and other noise sensitive uses. All noise sensitive developments within this zone may potentially be exposed to high levels of aircraft noise, which may be harmful to health or otherwise unacceptable. The provision of new noise sensitive developments will be resisted.
Notes:	› 'Good Acoustic Design' means following the principles of assessment and design as described in ProPG: Planning & Noise – New Residential Development, May 2017; › Internal and External Amenity and the design of noise insulation measures should follow the guidance provided in British Standard BS8233:2014 *"Guidance on sound insulation and noise reduction for buildings"*	

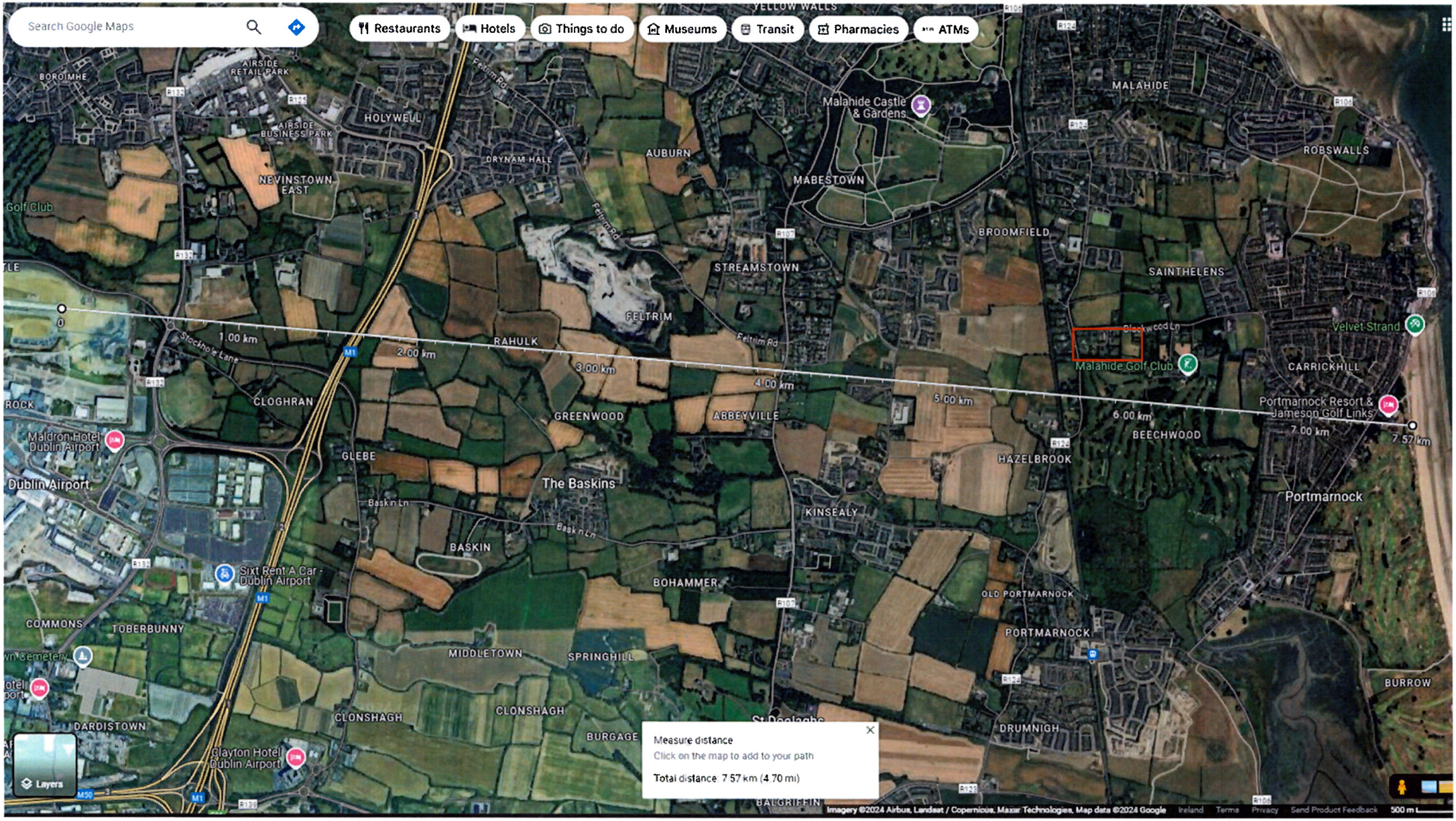
Rwy 28R Eastern Landing Approach

Location of Blackwoods Estate at the Junction of the R124 and Blackwood Lane Malahide Co.Dublin.



Rwy 28R Eastern Landing Approach

Location of Blackwoods Estate at the Junction of the R124 and Blackwood Lane Malahide Co.Dublin.



Blackwoods Blackwood Lane
Malahide Co Dublin
Located at the Junction of
Blackwood Lane and The R124

5.7 Kms / 3.5 Miles from Rwy 28R

No 4 Blackwoods the site
of the Searson & Associates
Acoustic Survey conducted on
the night of 11th/12th July 2023

Rwy 28R Approach Flight Path

101 Flights on Survey Night

Acoustic Survey Location
273 Meters from Centre Line of
RWY28R Approach Flight Path
320 Metres from Centre of Estate
266 metres Closest Home to Approach Flight Path

Average Overhead Passing Height 1,300 Ft

Rwy 28R Approach Flight Path

When Operational Blackwoods and Adjoining Dwellings become a Receptor of Extreme Levels of Consentrated Noise

Extrenal Max Noise Levels of SEL 92dB 86dB L_{AFMAX}
Internal Max Noise Levels of SEL 70dB 63dB L_{AFMAX}

Flights Recorded at Less than 3 Min Intervals
Causing Sleep Disturbance & Awakenings

Source Searson & Associates Acoustic Survey 11/12.8.2023