

320 King Georges Road, Beverly Hills

Update DA Acoustic Assessment

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Attention To	LA Donuts Pty Ltd

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1 INTRODUCTION

Acoustic Logic has been engaged to provide an updated acoustic assessment for the environmental noise impacts associated with the proposed alterations, extensions and redevelopment of a retail premises 'LA Donuts' located at 320 King Georges Road, Beverly Hills.

This document will address noise impacts associated with the following:

- Noise emissions from the proposed operation of the tenancy. This will include patron noise from the front of house.
- Mechanical noise emissions (in principle).

A detailed site map with measurement locations is presented in Figure 1 below.

This report has been prepared for the sole purpose of a development application assessment and should not be used or relied on for any other purposes.

2 REFERENCED DOCUMENTS

This assessment is based on the architectural drawings provided by DESCO. Design Studio, project no. 14323 dated 12/04/2024.

2.1 PLANNING GUIDELINES

Acoustic Logic has utilised the following documents and regulations in the assessment of noise emissions for this development:

- City of Canterbury-Bankstown – '*Canterbury-Bankstown Development Control Plan 2023*'.
- NSW Department of Environment and Heritage, Environmental Protection Authority document – '*Noise Policy for Industry (NPfI) 2017*'.

3 SITE DESCRIPTION AND THE PROPOSAL

The project site is located at 320 King Georges Road, Beverly Hills. The key features of the proposal are summarised below.

- Alterations to existing site with extensions of the existing ground and first floor plates area.
- Operation hours as follows:
 - Monday to Thursday – 8:00am to 10:00pm.
 - Friday to Saturday – 8:00am to 12:00am.
 - Sunday – 8:00am to 8:00pm.

3.1 NEAREST SENSITIVE RECEIVERS

The following table lists the nearest/potentially most impacted sensitive receivers surrounding the proposed retail. An aerial photo of the site is indicating the nearby noise sensitive receivers and measurement locations are presented in Figure 1.

Table 1 – Sensitive Receivers

Receiver (Refer Figure 1)	Receiver Type	Comment
R1	Residential	Shop top apartment located south of the site at 322-324 King Georges Road, Beverly Hills,
R2		Shop top apartment located north of the site at 318 King Georges Road, Beverly Hills.
R3		Residential receiver located east of the site at 1 Moondani Road, Beverly Hills.



Figure 1 – Aerial site Map with Nearest Sensitive Receivers and Noise Monitoring Locations

4 EXISTING ACOUSTIC ENVIRONMENT

Monitoring has been previously undertaken by this office to obtain the background noise levels at surrounding noise sensitive receivers.

Figure 1 above show the monitoring locations used for attended and unattended measurements.

4.1 NOISE DESCRIPTORS

Ambient noise constantly varies in level from moment to moment, so it is not possible to accurately determine prevailing noise conditions by measuring a single, instantaneous noise level.

To quantify ambient noise, a 15 minute measurement interval is typically utilised. Noise levels are monitored on a continuous basis over this period, and statistical and integrating techniques are used to characterise the noise being measured.

The principal measurement parameters are:

L_{eq} - represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period. **L_{eq}** is important in the assessment of noise impact as it closely corresponds with how humans perceive the loudness of steady state and quasi-steady state noise sources (such as traffic noise).

L₉₀ – This is commonly used as a measure of the background noise level as it represents the noise level heard in the quieter periods during the measurement interval. The **L₉₀** parameter is used to set noise emission criteria for potentially intrusive noise sources since the disturbance caused by a noise source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the **L₉₀** level.

L₁₀ is used in some guidelines to measure noise produced by an intrusive noise source since it represents the average of the loudest noise levels produced at the source. Typically, this is used to assess noise from licenced venues.

L_{max} is the highest noise level produced during a noise event, and is typically used to assess sleep arousal impacts from short term noise events during the night. It is also used to assess internal noise levels resulting from aircraft and railway ground vibration induced noise.

L₁ is sometimes used in place of **L_{max}** to represent a typical noise level from a number of high level, short term noise events.

4.2 UNATTENDED BACKGROUND NOISE MONITORING

4.2.1 Measurement Equipment

Long-term noise monitoring was undertaken with noise monitors provided Acoustic Research Laboratories Pty Ltd. The logger was programmed to store 15-minute statistical noise levels throughout the monitoring period and was calibrated at the beginning and the end of each measurement using a Rion NC-73 calibrator; no significant drift was detected. All measurements were taken on A-weighted fast response mode.

Attended measurements were undertaken to supplement the unattended noise monitoring. Measurements were conducted using a Norsonic 140 Sound Analyser. The analyser was set to fast response and calibrated before and after the measurements using a Norsonic Sound Calibrator type 1251. No significant drift was noted.

4.2.2 Measurement Locations and Period

One unattended noise monitoring was located on the rooftop of the project site - 320 King Georges Road, Beverly Hills, in order to monitor background noise levels. The monitor was located on the side closest to the residential receivers.

Unattended noise monitoring was conducted from 13rd July to 21st July 2023.

4.2.3 Measured Background Noise Levels

Ambient, assessment and rating background levels have been determined from the long term, unattended noise monitoring data based on the methodology in the *Noise Policy for Industry* Fact Sheet B. Appendix 1 contains the data collected in the unattended noise monitoring, and the periods identified as being affected by adverse weather conditions or extraneous noise (as defined by *NPfI* Fact Sheet B). Adverse weather affected data was excluded from the assessment.

Weather data was obtained from records provided by the Bureau of Meteorology for the weather station located at Sydney Observatory Hill and Fort Denison.

The NPfI day, evening and night periods are:

- Day - period from 7 am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays
- Evening - the period from 6 pm to 10 pm
- Night - the remaining periods

Based on the monitoring and measurements, the Rating Background Noise Levels (lowest 10th percentile noise levels during operation time period) are established for the surrounding receivers and are presented in the table below.

Table 2 - Rating Background Noise Levels

Location & Date	Time of Day	Rating Background Noise Level dB(A) _{L90(Period)}
320 King Georges Road, Beverly Hills 13/07/2023 – 21/07/2023	Day (7:00am-6:00pm)	47
	Evening (6:00pm-10:00pm)	48 (47)*
	Night (10:00pm-12:00am)	45
	Night (12:00am-7:00am)	42

**In line with the requirements of the NSW EPA, "Noise Policy for Industry 2017," the evening time period has been corrected to be equal to the daytime rating background noise level at the monitoring location*

5 NOISE EMISSIONS CRITERIA

The noise emissions from the project site has been assessed with reference to the requirements of the following documents:

- City of Canterbury-Bankstown – 'Canterbury-Bankstown Development Control Plan 2023'.
- NSW Department of Environment and Heritage, Environmental Protection Authority document – 'Noise Policy for Industry (NPfI) 2017'.

5.1 CANTERBURY-BANKSTOWN DEVELOPMENT CONTROL PLAN 2023

The City of Canterbury-Bankstown councils document – 'Canterbury-Bankstown Development Control Plan 2023' states the following requirements in relation to noise emissions from commercial developments.

Development adjacent to residential zones

9.21.*In determining a development application that relates to a site adjoining land in Zone R2, R3 or R4, Council must take into consideration the following matters:*

(a) whether any proposed building is compatible with the height, scale, siting and character of existing residential development within the adjoining residential zone;

(b) whether any goods, plant, equipment and other material used in carrying out the proposed development will be stored or suitably screened from residential development;

(c) whether the proposed development will maintain reasonable solar access to residential development between the hours of 8.00am and 4.00pm at the midwinter solstice;

(d) whether noise generation from fixed sources or motor vehicles associated with the proposed development will be effectively insulated or otherwise minimised;

(e) whether the proposed development will otherwise cause nuisance to residents by way of noise, hours of operation, traffic movement, parking, headlight glare, security lighting, fumes, gases, smoke, dust or odours, or the like; and

(f) whether any windows or balconies facing residential areas will be treated to avoid overlooking of private yard space or windows in residences.

Further reference is made to the *NSW EPA Noise Policy for Industry 2017*.

5.2 EPA NOISE POLICY FOR INDUSTRY (NPfI)

The *NSW EPA Noise Policy for Industry (NPfI) 2017*, has two criteria which need to be satisfied; namely the Intrusiveness noise level criteria and the Project amenity noise level criteria. The project noise trigger level is then established based on the lower of the intrusiveness and project amenity levels.

Noise levels are to be assessed at the property boundary or nearby dwelling, or at the balcony or façade of an apartment.

5.2.1 Intrusiveness Criterion

The guideline is intended to limit the audibility of noise emissions at **residential receivers** and requires that noise emissions measured using the L_{eq} descriptor do not exceed the background noise level by more than 5dB(A). Where applicable, the intrusive noise level should be penalised (increased) to account for any annoying characteristics such as tonality.

Background noise levels adopted are presented in Section 4.2.3. Noise emissions from the site should comply with the noise levels presented below when measured at nearby property boundary.

Table 3 – NSW EPA NPfI Intrusiveness Criterion

Receiver	Time of day	Rating background noise level (dB[A])	Project Intrusiveness Noise Level (LAeq,15min dB[A])
Residential Receivers	Day (7:00am-6:00pm)	47	52
	Evening (6:00pm-10:00pm)	47	52
	Night (10:00pm – 7:00am)	42	47

5.2.2 Project Amenity Criterion

The amenity guideline is intended to limit the absolute noise level from all noise sources to a level that is consistent with the general environment.

The *Noise Policy for Industry* sets out acceptable noise levels for various land uses. Table 2.2 on page 11 of the policy has four categories to distinguish different residential areas. They are rural, suburban, urban and urban/industrial interface.

The *Noise Policy for Industry* requires the project amenity noise level to be calculated in the following manner:

$$L_{Aeq, 15min} = \text{Recommended Amenity Noise Level} - 5 \text{ dB(A)} + 3 \text{ dB(A)}$$

Based on the measured background noise levels detailed in Section 4 and the location of the development, this office will assess noise emissions in accordance with the 'Urban' category.

'Urban' is defined as area which has an acoustical environment incorporating the following characteristics:

- Is dominated by 'urban hum' or industrial source noise
- Has through traffic characteristically heavy and continuous traffic flows during peak periods
- Is near commercial districts
- Has any combination of the above.

The amenity levels appropriate for the receivers surrounding the project site are presented in Table 4.

Table 4 - NPfl Project Amenity Criteria

Receiver	Time of Day	Recommended Amenity Noise Level dB(A) $L_{eq}(15min)$	Project Amenity Noise Level dB(A) $L_{eq}(15min)$
Residential Receivers	Day (7:00am-6:00pm)	60	58
	Evening (6:00pm-10:00pm)	50	48
	Night (10:00pm-7:00am)	45	43

5.2.3 Sleep Arousal Criteria

The *Noise Policy for Industry* recommends the following noise limits to mitigate sleeping disturbance:

Where the subject development / premises night -time noise levels at a residential location exceed:

- $L_{eq,15min}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or
 - L_{Fmax} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater,
- a detailed maximum noise level even assessment should be undertaken.*

The following sleep emergence noise objectives then apply.

Table 5 - Sleep Arousal Criteria for Residential Receivers

Receiver	Rating Background Noise Level (Night) dB(A) L_{90}	Emergence Level
Residential Dwellings Surrounding Site	42	47 dB(A) $L_{eq, 15min}$; 57 dB(A) L_{Fmax}

If there are noise events that could exceed the emergence levels detailed in the table above, then an assessment of sleep arousal impact is required to be carried out, taking into account the level and frequency of noise events during the night, existing noise sources, etc. This more detailed sleep arousal test is conducted using the guidelines in the *EPA Road Noise Policy*. Most relevantly, the *Road Noise Policy* states:

For the research on sleep disturbance to date it can be concluded that:

- *Maximum internal noise levels below 50-55dB(A) are unlikely to awaken people from sleep.*
- *One to two noise events per night with maximum internal noise levels of 65-70dB(A) are not likely to affect health and wellbeing significantly.*

Table 6 – EPA NPfI Project Noise Target Level

Receiver	Time Period	Assessment Background Noise Level dB(A) $L_{90}(\text{period})$	Project Amenity Criteria dB(A) $L_{eq}(15\text{min})$	Intrusiveness Criteria dB(A) $L_{eq}(15\text{min})$	NPfI Criteria for Sleep Disturbance
Residential Locations	Day	47	58	52	-
	Evening	47	48	52	-
	Night	42	43	47	47 dB(A) $L_{eq,15\text{min}}$; 57 dB(A) L_{Fmax}

- *The project noise trigger levels for the development are presented as bold within the above table.*

6 NOISE EMISSION ASSESSMENT

An assessment of noise emissions from the proposed retail tenancy has been conducted to ensure that the amenity of nearby land users is not adversely affected.

The following sources will be assessed:

- Noise from front of house and kitchens (indoor areas).
- Mechanical noise emissions (in principle).

6.1 INDOOR OPERATIONAL SCENARIO ASSUMPTIONS

The following assumptions have been made in regard to the use of the proposed indoor areas for the retail space located at 320 King Georges Road, Beverly Hills.

- It is assumed that, in a worst 15-minute period during the day and evening time periods (8 am – 10 pm), the front of house areas is at maximum capacity.
- It is assumed that, in a worst 15-minute period during the night time periods (10 pm – 12 am), the front of house areas is at half capacity.
- Patron noise is subject to 1 in 2 patrons talking at a streaming level at any one time.
- The sound power level of the front of house is modelled as 77dB(A) L_{eq} , indicative of this type of use generally in the experience of this office.

In the absence of any other noise emission criteria relevant for the assessment of patron/operational noise, external patron noise has been assessed against a 'background + 5 dB(A)' level throughout operation hours which is consistent for this type of development.

6.1.1 Predicted Noise Levels

The cumulative predicted noise levels are calculated to the worst affected points of the noise sensitive receivers identified in Section 3.1. Provided compliance is met at these locations, all other receivers will inherently comply due to the result of increased screening and distance attenuation from the front of house.

Table 7 – Predicted Noise Emissions

Receiver	Time Period	Predicted Noise Level dB(A) $L_{eq}(15min)$	Noise Emission Goal $L_{eq}(15min)$	Comments
R1	Day and Evening (7am – 10pm)	39	≤ 52	Below Noise Emission Criteria
R2		39		
R3		39		
R1	Night (10pm-12am)	37	≤ 47	
R2		37		
R3		37		

6.2 MECHANICAL NOISE EMISSIONS

Detailed acoustic review should be undertaken at CC stage to determine acoustic treatments to control noise emissions to satisfactory levels. Satisfactory levels will be achievable through appropriate plant selection and location and, if necessary, standard acoustic treatments such as duct lining, acoustic silencers and enclosures.

Noise emissions from all mechanical services plant to the closest receivers are to comply with the noise emissions criteria stipulated in Section 5.

7 RECOMMENDATIONS

The predicted noise levels presented in Section 6.1.1 are a result of the following management controls.

- Trade is restricted to the development to the proposed operation hours of 8:00am to 12:00am.
- Background Music is not to be played during operations.
- Management controls should be utilised to manage patron departure particularly throughout the evening and closing times to ensure that patrons leave the premises in a prompt and orderly manner.
- Prominent notices shall be placed to remind patrons that a minimum amount of noise is to be generated when leaving the premises.
- All garbage shall be retained within the premises after 6pm and removed after 7am on the following day.

8 CONCLUSION

This report presents an acoustic assessment of noise impacts associated with the proposed retail development to be located at 320 King Georges Road, Beverly Hills.

Provided acoustic treatments in Section 7 are implemented, noise emissions from the development will satisfy the requirements of:

- City of Canterbury-Bankstown – *'Canterbury-Bankstown Development Control Plan 2023'*.
- NSW Department of Environment and Heritage, Environmental Protection Authority document – *'Noise Policy for Industry (NPfI) 2017'*.

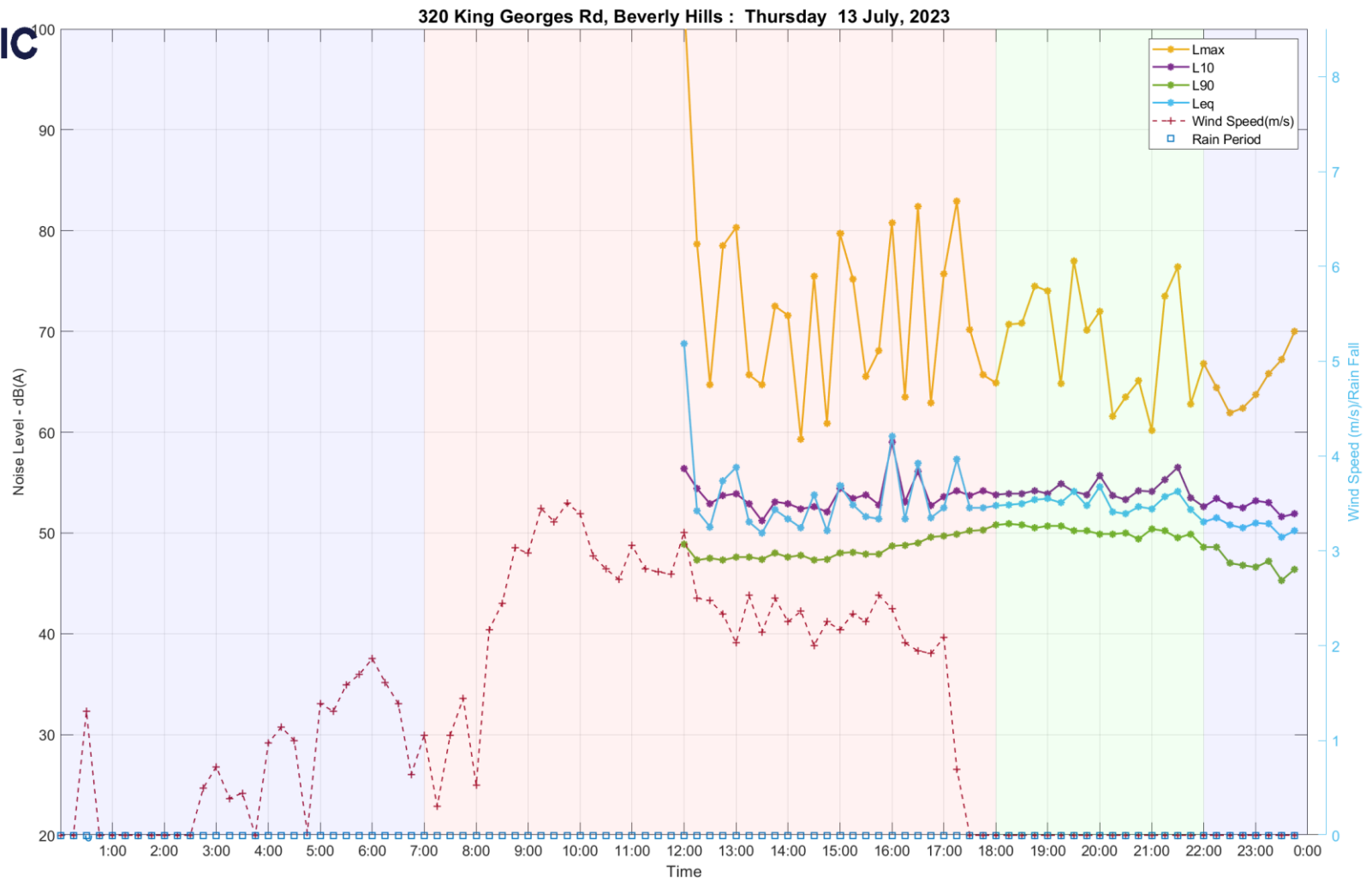
We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'Eric Mao', written over a horizontal line.

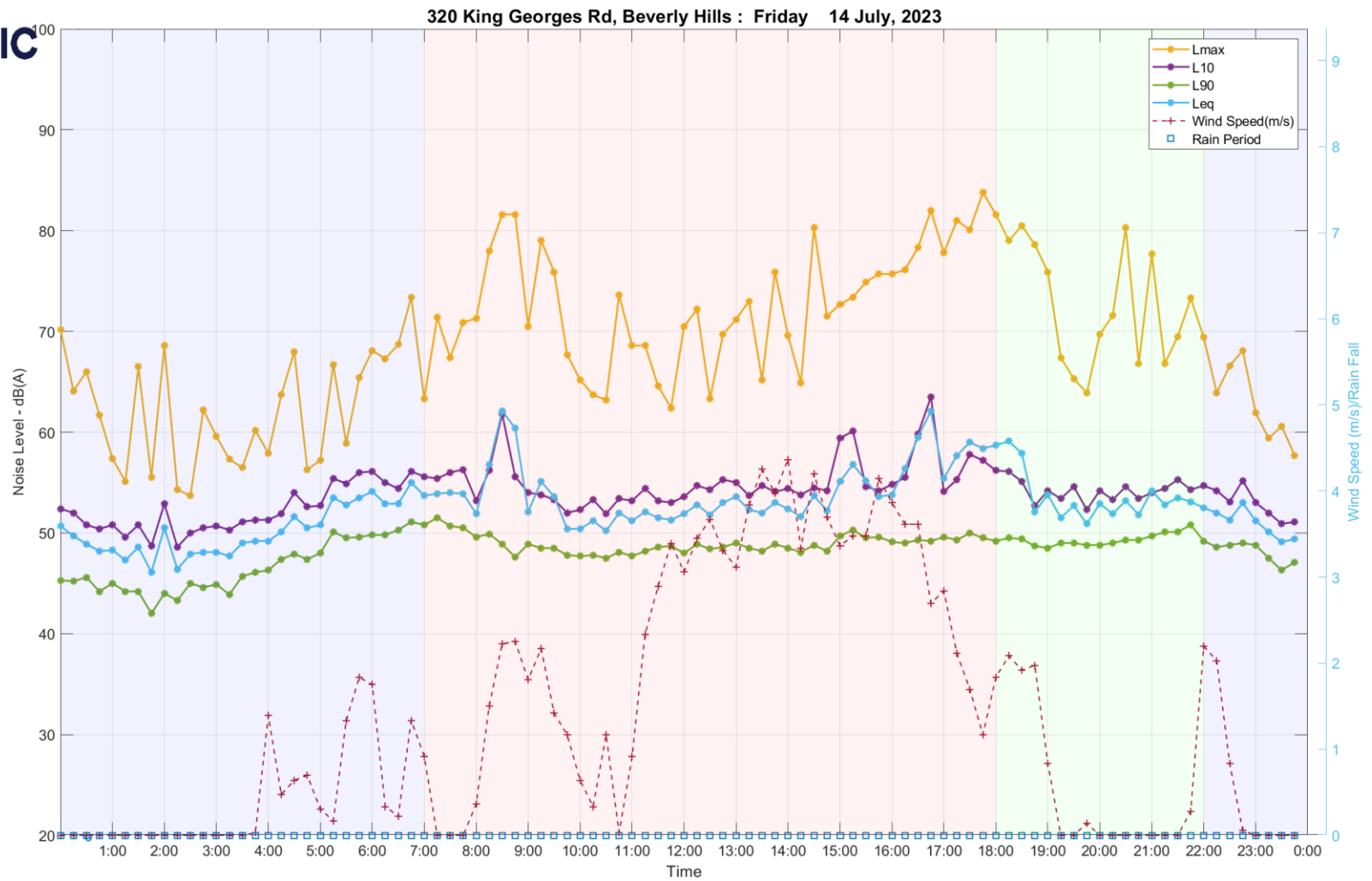
Acoustic Logic Pty Ltd
Eric Mao

APPENDIX 1 - UNATTENDED NOISE MONITORING CHARTS



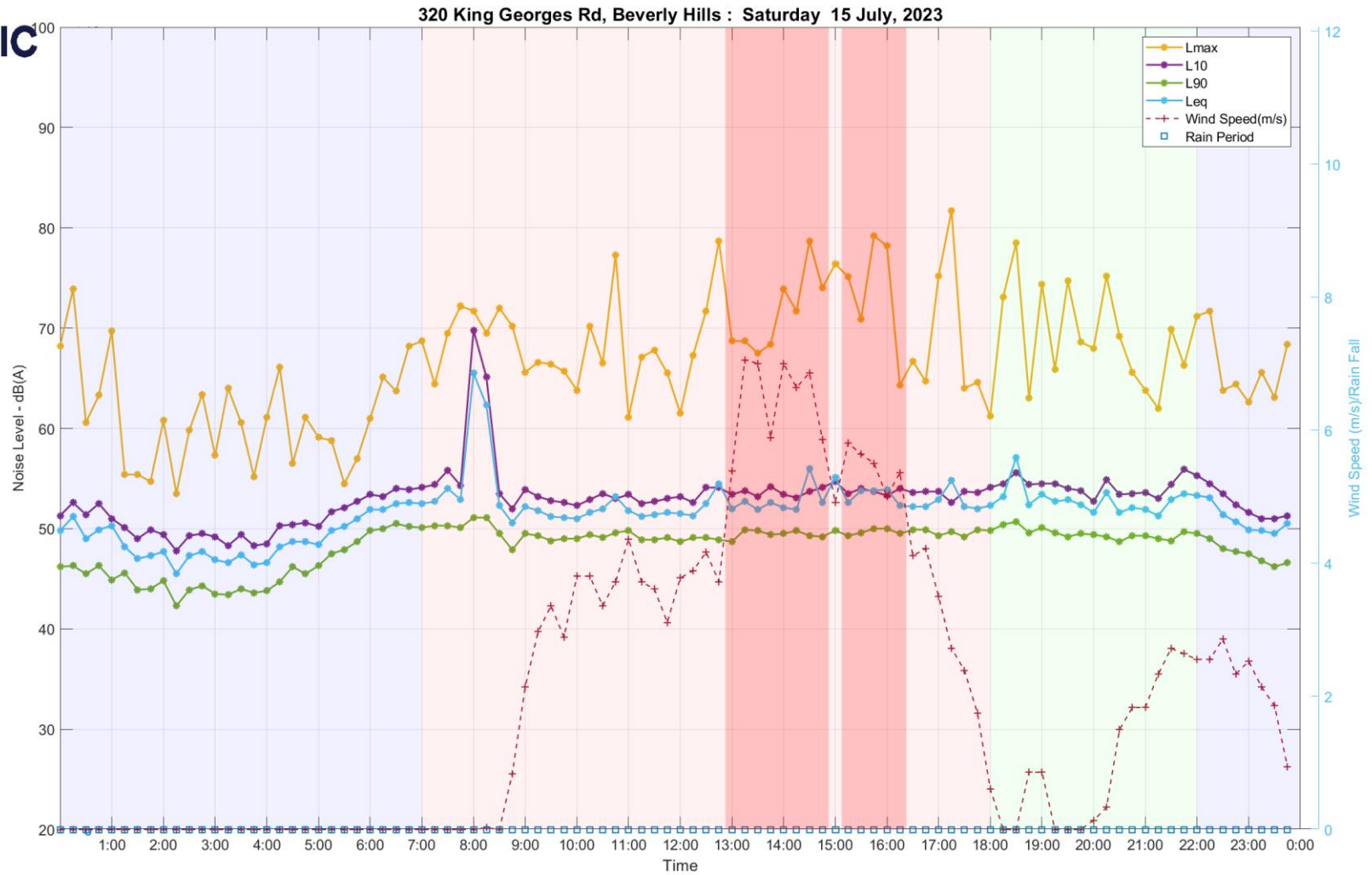


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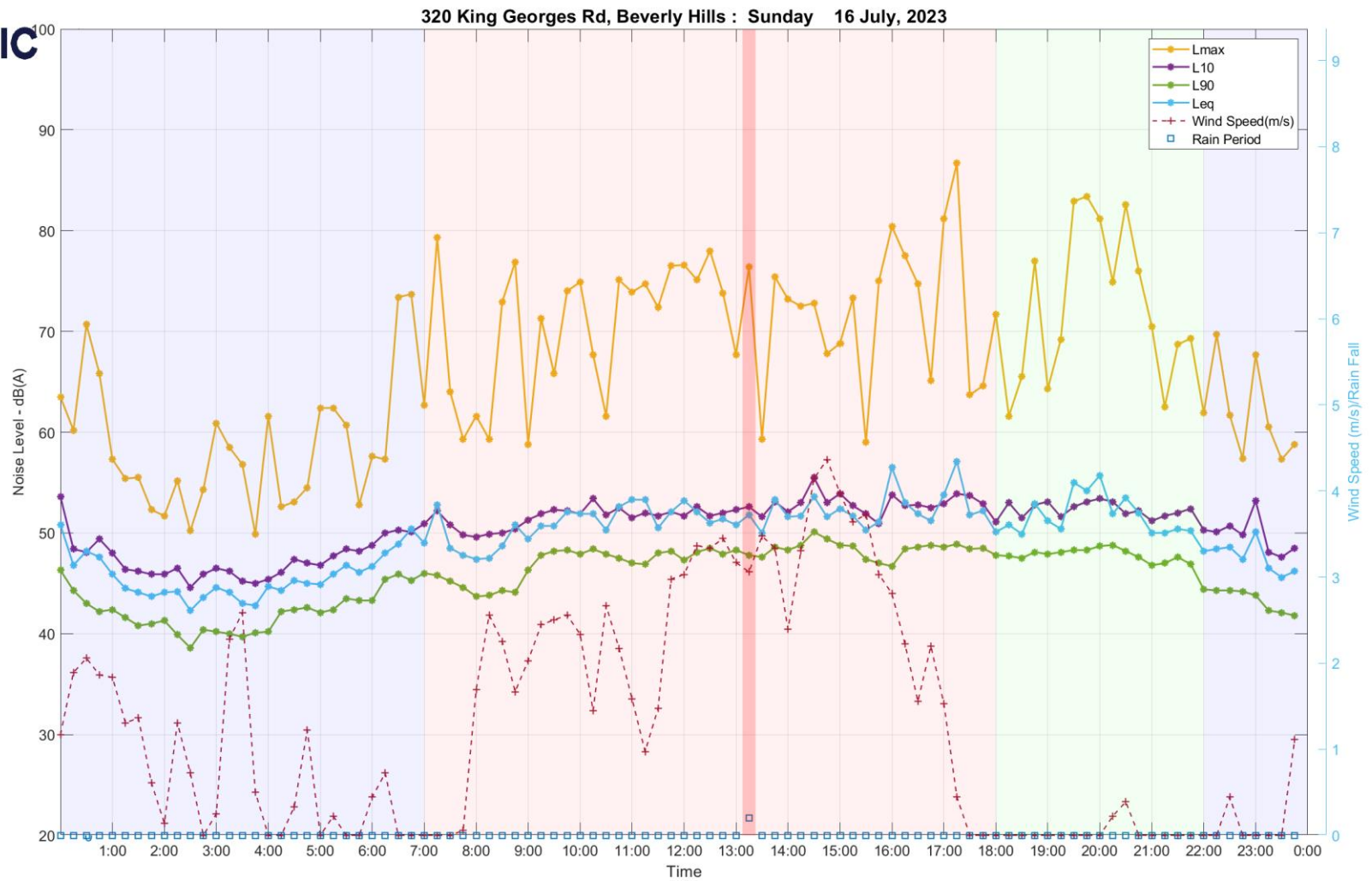


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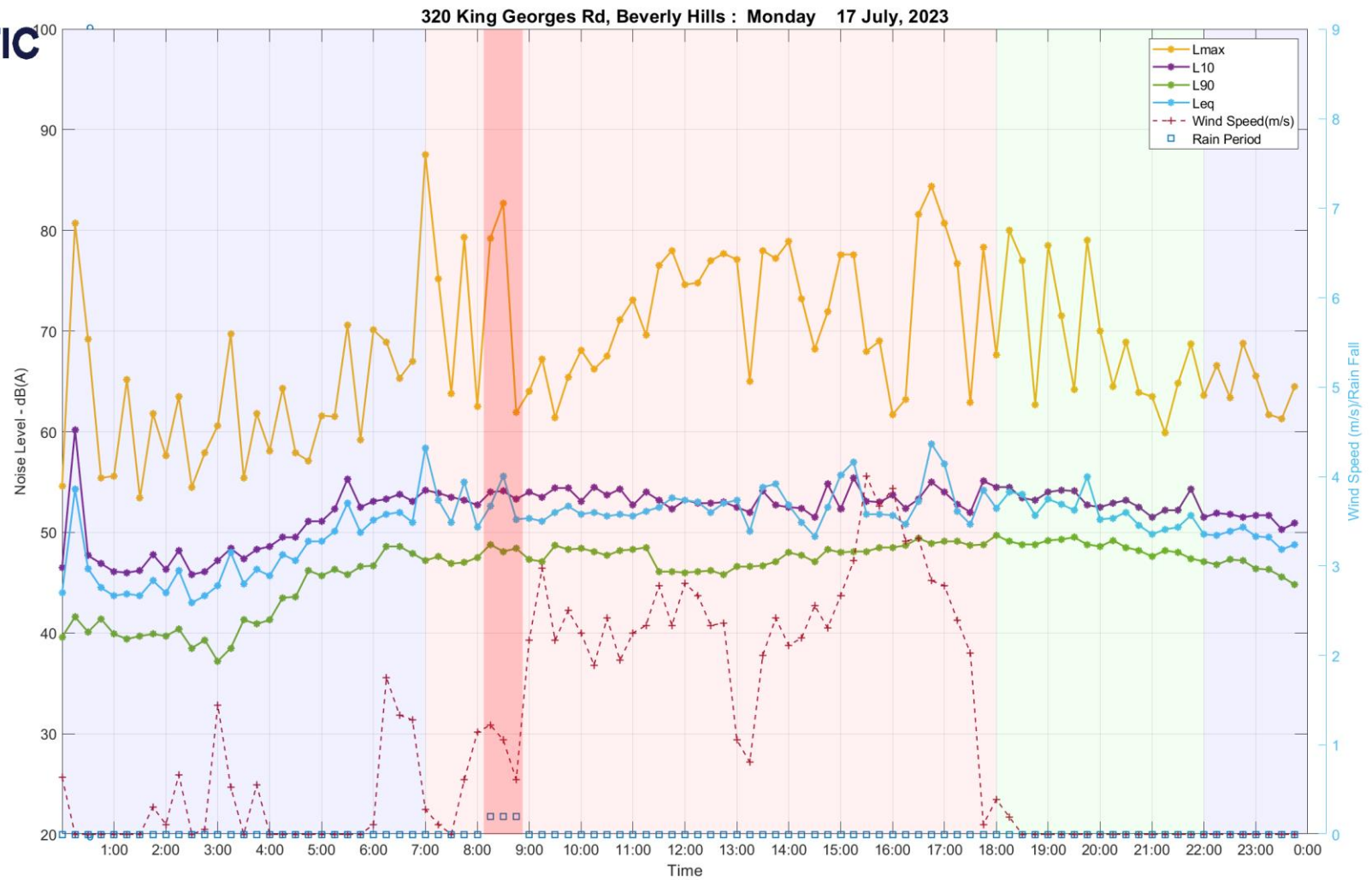


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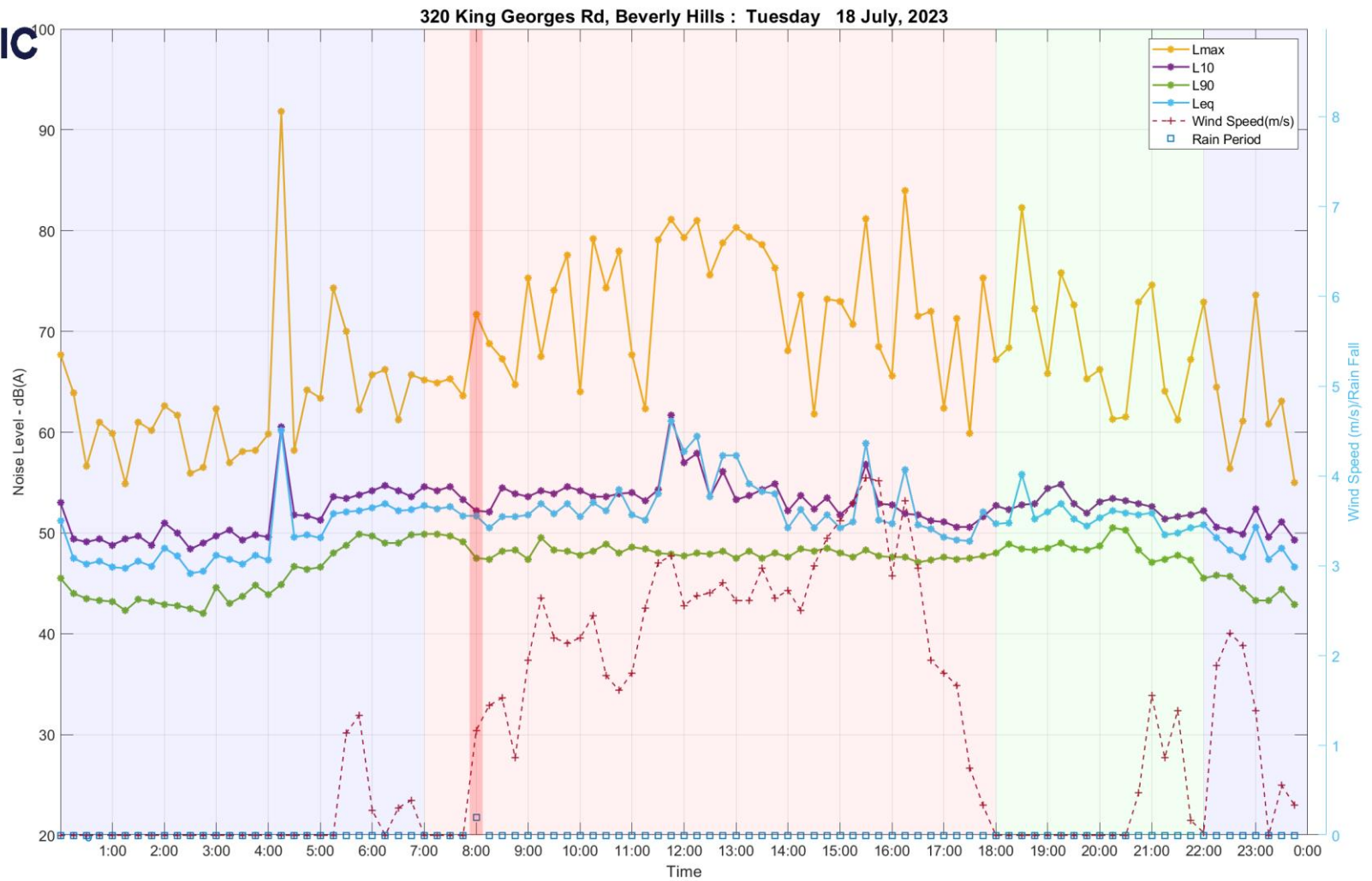


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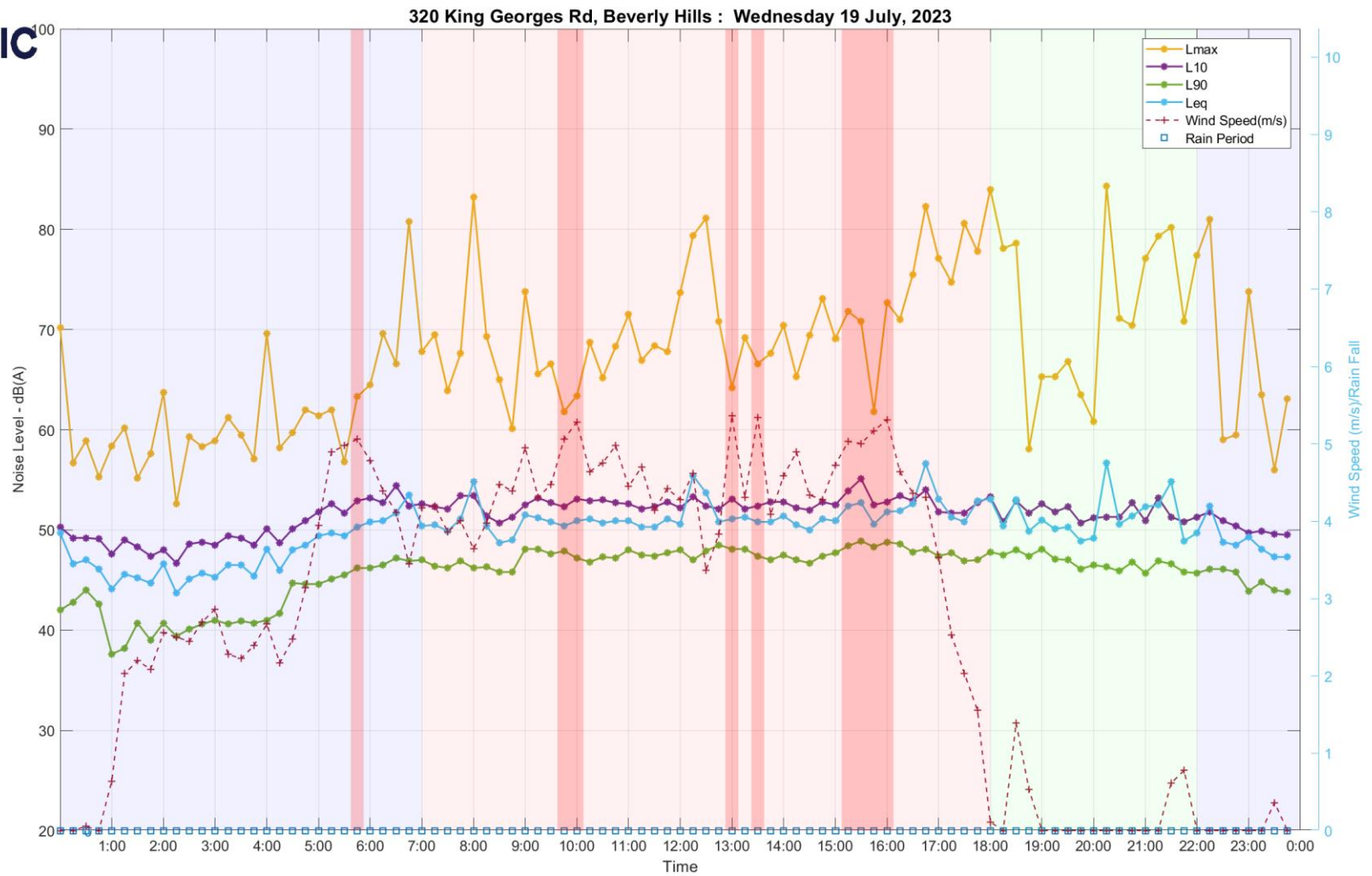


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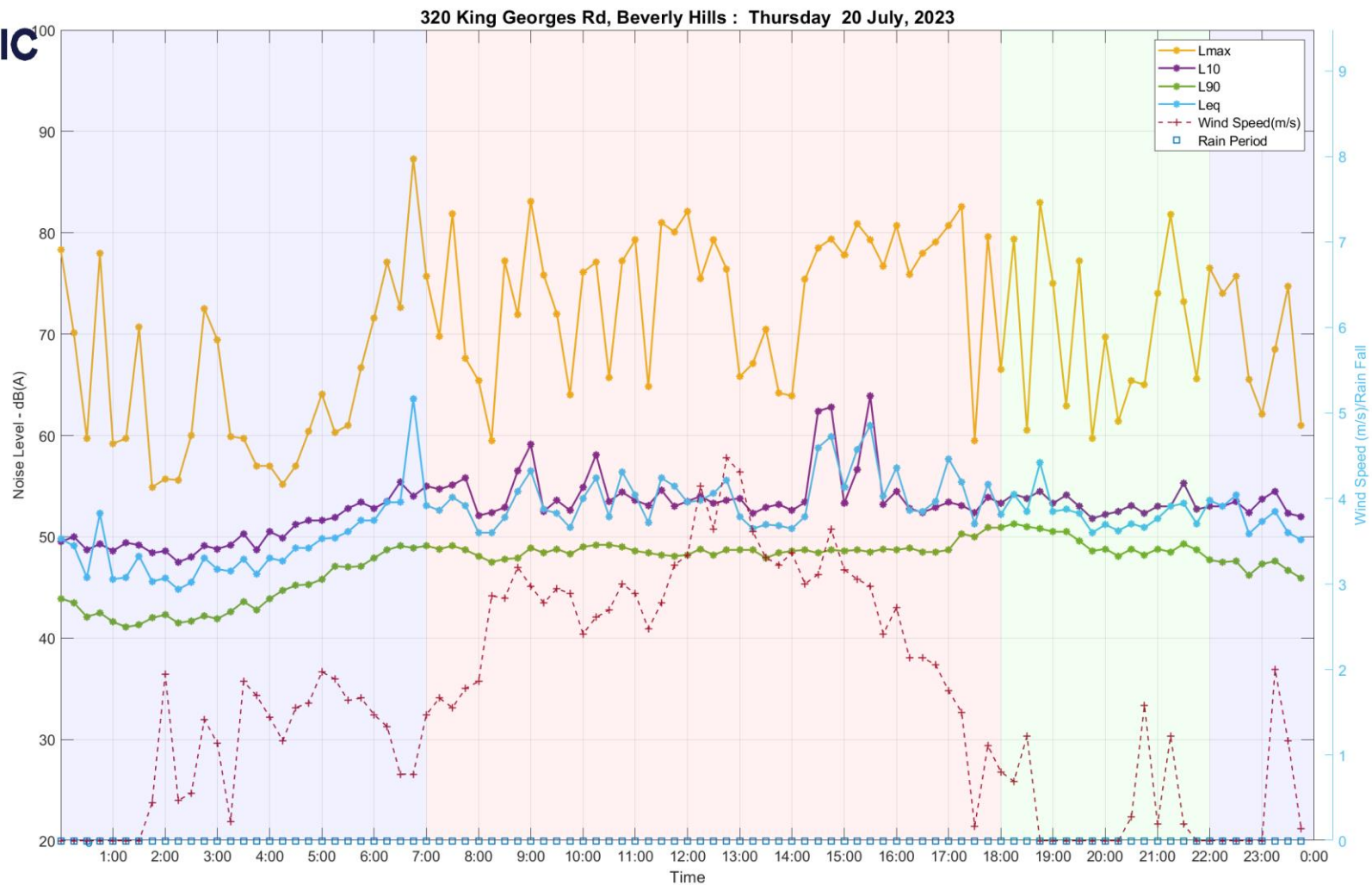


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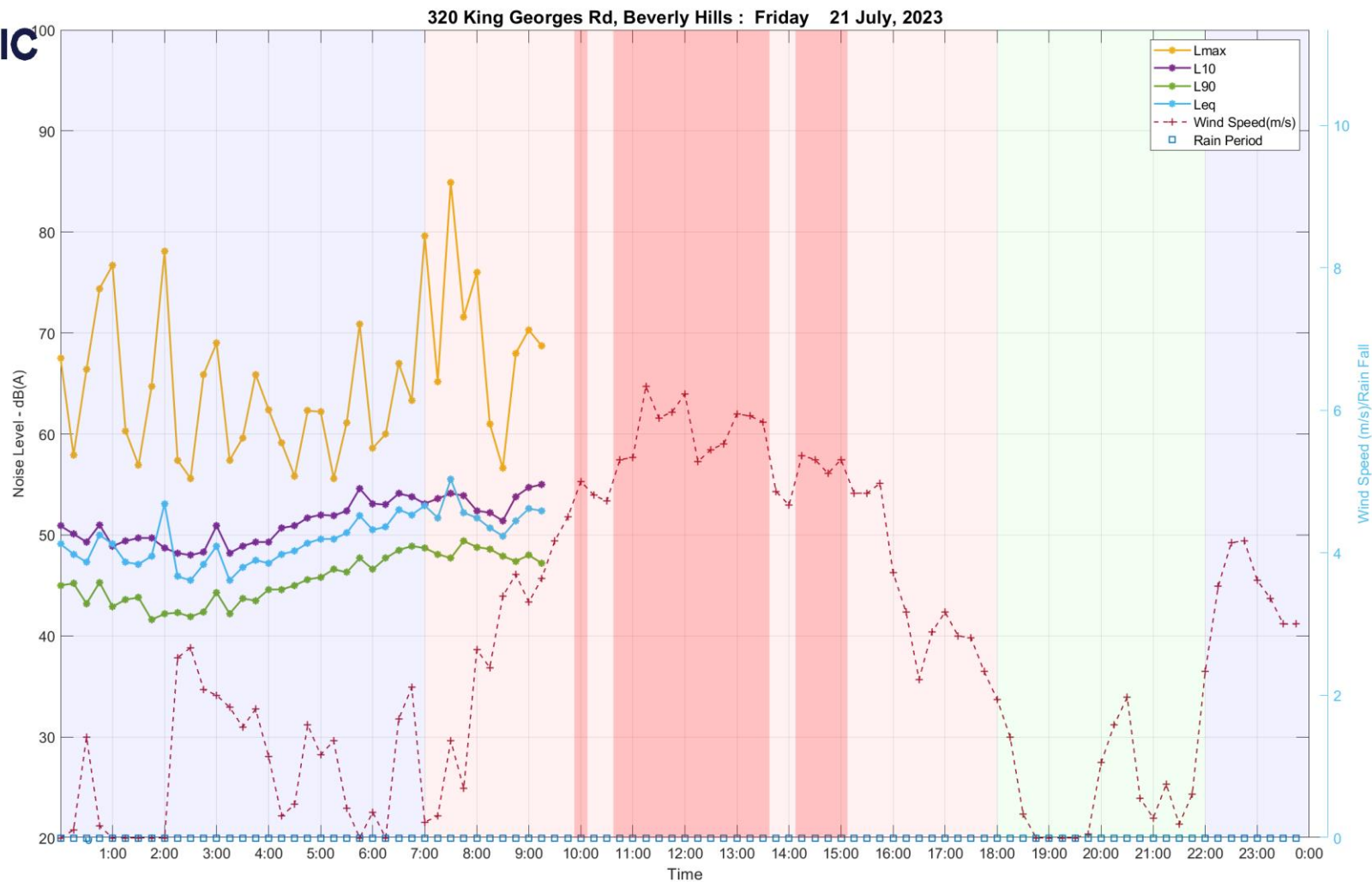


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Wind Speed is corrected using factor 1.0000 based on logger location