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Stage 2, Lot 101, DP1267563, Somme Avenue, Edmondson Park

DA Noise Impact Assessment

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4	22/02/2024	20210971.1/2202A/R4/GC	GC		GC

Australian Acoustical Society

Glen Campbell

#4003

Membership Type
Member

Member Since
29 August, 2022

Membership Active Till
30 June, 2024

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1 INTRODUCTION

This report presents our assessment of environmental noise emission and external noise intrusion for the proposed Stage 2 residential development located at Lot 101, DP1267563, Somme Avenue, Edmondson Park.

Impacts assessed include:

- Traffic noise impacts
- Operational noise emissions such as mechanical plant

The internal noise assessment was made in reference to the following documents:

- Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008;
- Australian and New Zealand AS/NZS 2107:2016 *'Recommended design sound levels and reverberation times for building interiors';*

External noise emission criteria have been setup in this report to satisfy the requirements below;

- Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008;
- NSW EPA Noise Policy for Industry (NPfI) 2017;

This assessment is based on the following "issue for development application" architectural drawings set provided to this office by Stanisic Architects dated 29/02/2024. Reviewed drawings include drawing series 0000, drawing series 1000, drawing series 1100, drawing series 2000, drawing series 2100, drawing series 4000, drawing series 5000, drawing series 8000 and drawing series 9000.

2 SITE DESCRIPTION/PROPOSED DEVELOPMENT

The proposed Stage 2 residential development contains 3 multi storey buildings. The project site is located at the Lot 101, DP1267563, Somme Avenue, Edmondson Park. The location of the buildings are as follows:

Building A and B Lot

The eastern facade of building B faces Passendale Road, which is two lane road used for residential access with low traffic volume. The western facade of building A faces Somme Avenue, which is two lane road used for residential access with low traffic volume. The remaining site boundaries for building A and B adjoin the existing/future residential lots, some of which are still in construction or vacant, including developments.

It is noted that Bernera Road is 90 metres to the east of building B with buildings as part of the developments across the proposed site on Bernera Road providing a barrier to the eastern façade.

Building C Lot

The eastern facade of building C faces Bernera Road, which is four lane road with medium traffic volume. The southern, western and northern site boundaries adjoined the existing/future residential lots, some of which are still in construction or vacant, including developments across the proposed site on Bernera Road.

Site investigation indicates that the nearest noise receivers around project site are as below:

Building A and B Lot

- Receiver 1 – (residential receiver) The residential development, situated to the east of the site across Passandale Road (still in construction).
- Receiver 2 – (residential receiver) At the existing multiple vacant lots, situated to the south of the site.
- Receiver 3 – (residential receiver) At the existing multiple vacant lots, situated to the north of the site.
- Receiver 4 – (residential receiver) The residential development, situated to the west of the site across Somme Ave (still in construction).

Building C Lot

- Receiver 1 – (residential receiver) The residential development, situated to the north of the site at (still in construction).
- Receiver 2 – (residential receiver) At the existing multiple vacant lots, situated to the west of the site.
- Receiver 3 – (residential receiver) The existing multiple vacant lots, situated to the east of Berner Road.

The major noise issues related to the proposed development are below:

- Traffic noise intrusion from Bernera Road.
- Mechanical services noise emissions from the site

The aerial photo of site location and measurement locations, and building arrangement with proposed arial view are shown below in figure 1 and 2.

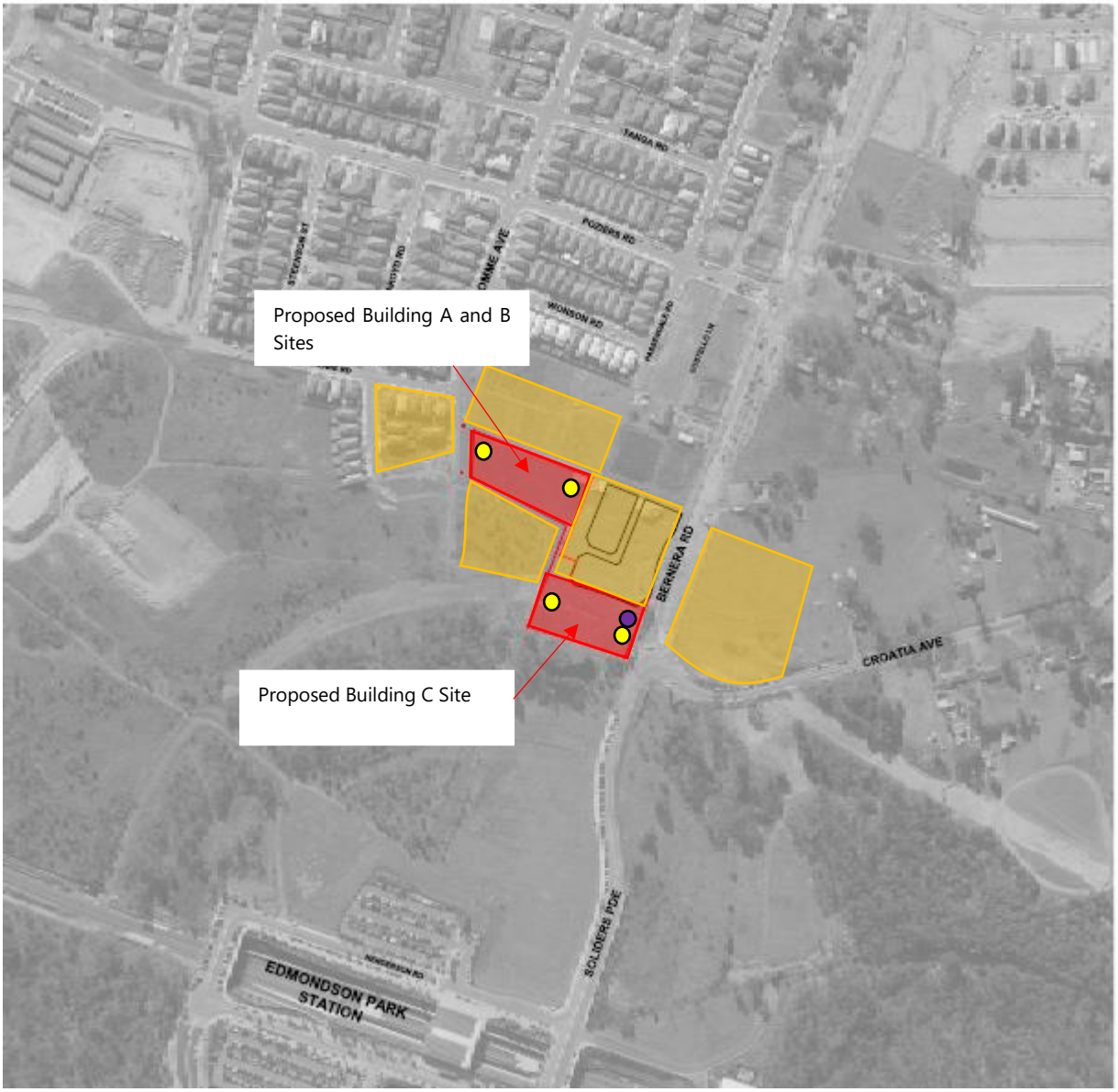


Figure 1: Site Map and Measurement Locations (Photo provided by Stanisic architects)

Proposed Sites

Residential receivers

Location of attended noise measurements

Location of unattended noise monitor

Figure 1: Proposed Arial View (Provided by Stanisic architects)

3 ENVIRONMENTAL NOISE DESCRIPTORS

Environmental noise constantly varies. Accordingly, it is not possible to accurately determine prevailing environmental noise conditions by measuring a single, instantaneous noise level.

To accurately determine the environmental noise a 15-20 minute measurement interval is utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters.

In analysing environmental noise, three-principle measurement parameters are used, namely L_{10}, L_{90} and L_{eq}.

The L_{10} and L_{90} measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement intervals.

The L_{10} parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced by the source.

Conversely, the L_{90} level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The L_{90} parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the L_{90} level.

The L_{eq} parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the 15-minute period. L_{eq} is important in the assessment of environmental noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of environmental noise.

4 EXISTING ACOUSTIC ENVIRONMENT

Acoustic monitoring was conducted at the site to establish the background noise levels which will be used as basis for this assessment.

4.1 BACKGROUND NOISE LEVELS

Background noise levels which will be used as a basis for this assessment are detailed in the following sections.

4.1.1 Measurement Equipment

Unattended noise monitoring was conducting using one Acoustic Research Laboratories Pty Ltd noise logger. The logger was programmed to store 15-minute statistical noise levels throughout the monitoring period. The equipment 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.

4.1.2 Measurement Locations and Period

A noise monitor was on site from the 23rd August 2021 to 1st September 2021 as part of the existing approved DA stage reporting (Acoustic Logic report ref 20210971.1/1712A/R2/GW dated 17/12/2021). The noise monitor was located at the eastern boundary of the building A site, which is approximately 7m from Bernera Road. The measured background noise levels have been corrected for meteorological conditions (excessive wind and/or rain), as required by section 3.4 of the EPA Industrial Noise Policy. Weather zone data for observations recorded at Holsworthy weather station, the existing background noise levels are presented in Appendix 1.

4.1.2.1 Measured Background Noise Levels

For a detailed location refer to Figure 1. Refer to Appendix 1 for unattended noise monitoring data. The DA approved background noise levels established from the unattended noise monitoring are detailed in the table below.

Table 1- Measured Background Noise Levels

Location	Time of day	Rating Background Noise Level dB(A)L_{90}
East Boundary Building C, facing Bernera Road, Edmondson Park Approximately 7m from the road kerb of Bernera Road.	Day 7am to 6pm	49
	Evening 6pm to 10pm	48
	Night 10pm to 7am	43

5 TRAFFIC NOISE DESCRIPTORS

Traffic noise constantly varies in level, due to fluctuations in traffic speed, vehicle types, road conditions and traffic densities. Accordingly, it is not possible to accurately determine prevailing traffic noise conditions by measuring a single, instantaneous noise level.

To accurately determine the effects of traffic noise a 15-20minute measurement interval is utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters. These parameters are used to measure how much annoyance would be caused by a particular noise source.

In the case of environmental noise three principle measurement parameters are used, namely L_{10}, L_{90} and L_{eq}.

The L_{10} and L_{90} measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement intervals.

The L_{10} parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced by the source.

Conversely, the L_{90} level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The L_{90} parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the L_{90} level.

The L_{eq} parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the 15minute period. L_{eq} is important in the assessment of traffic noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of traffic noise.

Current practice favours the L_{eq} parameter as a means of measuring traffic noise, whereas the L_{10} parameter has been used in the past and is still incorporated in some codes. For the reasons outlined above, the L_{90} parameter is not used to assess traffic noise.

6 TRAFFIC NOISE INTRUSION

6.1 ACOUSTIC CRITERIA

Traffic noise will be assessed to the following criteria:

- Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008;
- Australian and New Zealand AS/NZS 2107:2016 *'Recommended design sound levels and reverberation times for building interiors';*

6.1.1 Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008;

Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008 do not contain any applicable acoustic criteria with respect for traffic noise. Therefore, the following guidelines are adopted.

6.1.2 Australian and New Zealand AS/NZS 2107:2016 *'Recommended design sound levels and reverberation times for building interiors'*

Australian Standard AS 2107-2016: Recommended design sound levels and reverberation times for building interiors specifies allowable internal noise levels for internal spaces within residential buildings. Table 1, in Section 5 of AS 2107-2016, gives the following maximum internal noise levels for residential buildings in suburban areas.

Table 2- Recommended Design Sound Level

Space /Activity Type	Recommended Maximum Design Sound Level dB(A) L_{eq}
Apartment common areas	50 dB(A)$L_{eq,\ 24\ hours}$
Living areas	40 dB(A)$L_{eq,\ 24\ hours}$
Sleeping areas	35 dB(A)$L_{eq(night\ time)}$

6.2 TRAFFIC NOISE MEASUREMENTS

Existing traffic noise levels impacting the site were determined by attended and unattended noise measurements. Site investigation indicated that traffic noise from Bernera Road is dominating the noise intrusion into the proposed development.

6.2.1 Unattended Noise Measurements

Unattended noise measurement (for traffic noise) was obtained during the approved DA stage reporting (Acoustic Logic report ref 20210971.1/1712A/R2/GW dated 17/12/2021) using an Acoustic Research Laboratories Pty Ltd noise logger. The logger was programmed to store 15-minute statistical noise levels throughout the monitoring period. The noises monitor was calibrated at the beginning and the end of the measurement using a Rion NC-73 calibrator. No significant drift was detected. All measurements were taken on A-weighted fast response mode. There were no significant periods of adverse weather conditions during the measurement period.

Monitor was setup with microphone locate approximate 7m from Bernera Road (formerly Croatia Avenue), the microphone was with 180-degree view of traffic. The logger was on site from the 23rd August 2021 to 1st September 2021. Refer to Appendix 1 for unattended noise monitoring data. The approved DA stage unattended traffic noise measurements are summarised below:

Table 3 – Measured Traffic Noise Levels

Location	Time of Day	Traffic Noise Level $L_{eq(9hr/15hr)}$
East Boundary Building C, facing Bernera Road, Edmondson Park Approximately 7m from the road kerb of Bernera Road.	Day	67dB(A) $L_{eq(15hr)}$
	Night	63dB(A) $L_{eq(9hr)}$

6.2.2 Attended Noise Measurements

Attended noise monitoring were conducted on site on 23rd August 2021 during the approved DA stage (Acoustic Logic report ref 20210971.1/1712A/R2/GW dated 17/12/2021) between 4:00pm and 5:00pm. Measurements were conducted using a Norsonic 140 Type 1 sound analyser set on A-weighted fast response mode. Calibration of the meter was checked at the beginning and end of the measurement period, and no significant drift was noted.

Attended traffic noise measurements are summarised below:

Table 4 – Measured Traffic Noise Levels

Location	Traffic Noise Level $L_{Aeq(15min)}$
Building C Lot - 7m away from road kerb of Bernera Road, with 180 degrees of view on Bernera Road	67
Building A and B Lot - 3m away from road kerb of Passandale Road, with 180 degrees of view on Passandale Road	57

In addition, attended noise monitoring was then conducted on site on 12th February 2024 between 4:30pm and 5:30pm to supplement the approved DA stage measurements. Measurements were conducted using a Norsonic 131 Type 1 sound analyser set on A-weighted fast response mode. Calibration of the meter was checked at the beginning and end of the measurement period, and no significant drift was noted.

Attended traffic noise measurements are summarised below:

Table 5 – Measured Traffic Noise Levels

Location	Traffic Noise Level $L_{Aeq(15min)}$
Building C Lot - 7m away from road kerb of Bernera Road, with 180 degrees of view on Bernera Road	66
Building A and B Lot - 3m away from road kerb of Passandale Road, with 180 degrees of view on Passandale Road	57

6.2.3 Summary of Traffic Noise Measurement Results

Our investigation indicated that traffic noise from Bernera Road is dominating the noise intrusion into the proposed development. The summarised traffic noise levels are listed in the table below. Noise levels have been adjusted for distance attenuation and time of day.

Table 5 – Summary of Traffic Noise Levels

Location	Time of Day	Traffic Noise Level $L_{eq((9hr/15hr)}$
At the eastern boundary of the Building C lot of the proposed development	Day	67dB(A) $L_{eq(15hr)}$
	Night	63dB(A) $L_{eq(9hr)}$
At the eastern boundary of Building A and B lot of the proposed development	Day	57dB(A) $L_{eq(15hr)}$
	Night	53 dB(A) $L_{eq(9hr)}$

6.3 RECOMMENDED CONSTRUCTIONS

Traffic noise intrusion into the proposed development was assessed using the measured external noise levels reported above as a basis.

Calculations were performed taking into account the orientation of windows, the total area of glazing, facade transmission loss and room sound absorption characteristics. In this way the likely interior noise levels can be predicted.

Internal noise levels will primarily be as a result of noise transfer through the windows and doors as these are relatively light building elements that offer less resistance to the transmission of sound. Noise transfer through the masonry elements will not be significant and need not be considered further.

The constructions necessary to achieve the noise levels are detailed below. The predicted noise levels have been based on the expected level and spectral characteristics of the external noise, the area of building elements exposed to traffic noise, the absorption characteristics of the rooms and the noise reduction performance of the building elements.

Note: These recommended constructions are based off typical room and glazing dimensions. Further acoustic analysis will be required at CC stage.

6.3.1 Glazed Windows and Doors

The recommended constructions to comply with the traffic noise objectives stated in Section 6.1 are presented below. Aluminium framed/sliding glass doors and windows will be satisfactory provided they meet the following criteria listed below.

Table 6 – Glazing Thickness Requirements (Lot C)

Building Lot	Facade	Space	Glazing Construction	Acoustic Seals
Lot C	East Façade Facing Bernera Road	Living Room	10.38mm laminate	Yes
		Bedroom	10.38mm laminate	
	North Facade	Living Room	6.38mm laminate	
		Bedroom	6.38mm laminate	
	South Facade	Living Room	6.38mm laminate	
		Bedroom	6.38mm laminate	
	West Facade	Living Room	6mm float	
		Bedroom	6mm float	

Table 7 – Glazing Thickness Requirements (Lot A and B)

Building Lot	Facade	Space	Glazing Construction	Acoustic Seals
A and B	North Facade	Living Room	6mm float	Yes
		Bedroom	6mm float	
	East Facade	Living Room	6mm float	
		Bedroom	6mm float	
	West Facade	Living Room	6mm float	
		Bedroom	6mm float	
	South Facade	Living Room	6mm float	
		Bedroom	6mm float	
	Remaining facing inside	Remaining	6mm float	

Thicker glazing may be required for structural, safety or other purposes. Where it is required to use thicker glazing than scheduled, this will also be acoustically acceptable.

In addition to complying with the minimum scheduled glazing thickness, the R_w rating of the glazing fitted into operable frames and fixed into the building opening should not be lower than the values listed in Table 8 below.

Where nominated, this will require the use of acoustic seals equal to Schlegel Q-lon series *(acoustic bulb seal)* around the full perimeter of operable frames. The frame will need to be sealed into the building opening using a flexible 100% polyurethane sealant equal to Selly's Pro Series FIreblock. Note that mohair seals and/or mohair/plastic fin combination seals in windows and doors are **not** acceptable where acoustic seals are required.

It is recommended that only window systems have test results indicating compliance with the required ratings obtained in a certified laboratory be used where windows with acoustic seals have been recommended.

Table 8 – Minimum R_w of Glazing Requirements

Glazing Assembly	Minimum R_w of Installed Window	Acoustic Seals
6mm float	29	Yes
6.38mm laminate	31	Yes
10.38mm laminate	35	Yes

6.3.2 External Walls

The proposed concrete/ masonry elements on external wall construction will be acoustically acceptable and will not require any acoustic treatment. There should not be vents on the internal skin of external walls. All penetrations in the internal skin of external walls should be acoustically sealed.

6.3.3 Roof/Ceiling

The proposes concrete/ masonry elements on roof construction will be acoustically acceptable and will not require further acoustic upgrading to ensure compliance with project criteria. All penetrations in all area ceilings (such as for light fittings etc.) must be acoustically treated and sealed gap free with a flexible sealant.

6.3.4 Ventilation requirements

With respect to natural ventilation of the dwelling, the NSW Department of Planning document "Development near Busy Roads and Rail Corridors - Interim Guideline" dictates that:

> *"If internal noise levels with windows or doors open exceed the criteria by more than 10dB(A), the design of the ventilation for these rooms should be such that occupants can leave windows closed, if they so desire, and also to meet the ventilation requirements of the Building Code of Australia."*

With windows open, the allowable internal noise goal is permitted to be 10dB(A) higher than when the windows are closed (i.e. – allowable level in bedrooms becomes 45dB(A), and 50dB(A) in living rooms).

Any bedroom or living room of Building C with windows on along the eastern, northern and southern façade need to be **closed** to achieve suitable internal noise levels so will require alternative natural ventilation. Although windows on these façades can be *openable*, the required internal noise level for rooms on these facades is only achieved when the windows are closed.

Any other spaces of building C and Building A and B within any apartment can achieve suitable internal noise levels with windows open.

Should any ventilation system be installed, it should be acoustically designed to ensure that the acoustic performance of the acoustic treatments outlined above are not reduced and does not exceed Council criteria for noise emission to nearby properties.

7 NOISE EMISSION ASSESSMENT

The noise emissions from the project site shall comply with the requirements of the following;

- Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008; and
- NSW EPA Industrial Noise Policy for Industry 2017.

7.1 NOISE CRITERIA

7.1.1 Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008;

Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008 do not contain any applicable acoustic criteria with respect for noise emission. Therefore, the following guidelines are adopted.

7.1.2 NSW EPA Industrial Noise Policy for Industry 2017

The NSW EPA Noise Policy for Industry 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.

7.1.2.1 Intrusiveness Noise Level Criteria

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. Noise emissions from the site should comply with the noise levels presented below when measured at nearby property boundary.

Table 9 – Intrusiveness Noise Level Criteria

Location	Period/Time	Intrusiveness Noise Level Criteria dB(A) $L_{eq(15min)}$
Nearby Residences	Day (7am-6pm)	49
	Evening (6pm-10pm)	48
	Night (10pm-7am)	43

7.1.2.2 Project Amenity Noise Level Criteria

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

The NSW EPA Industrial noise policy sets out acceptable noise levels for various localities. Table 2.2 on page 11 of the policy indicates 3 categories to distinguish different residential areas. They are rural, suburban, urban. This site is categorised by suburban receivers.

For the purposes of this condition:

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- Evening is defined as the period from 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and public holidays.

The project amenity noise level is calculated by taking the recommended amenity noise level (as presented in table 2.2 of the policy), subtracting 5dB(A) and then adding 3dB(A) to convert from $L_{Aeq,\ period}$ to a $L_{Aeq,15\ minute}$ descriptor. The project amenity noise level criteria are presented in the table below.

Table 10– Project Amenity Noise Level Criteria

Location	Period/Time	Project Amenity Noise Level Criteria dB(A) $L_{eq(15min)}$
Nearby Residences – Suburban Receiver	Day (7am-6pm)	53
	Evening(6pm-10pm)	43
	Night(10pm-7am)	38

7.1.3 Resultant Project Noise Emission Criteria

Based on the requirements stated in the sections above, table below provides a summary of the assessment criteria applicable to the future residential development at the project site. The assessment criteria are also based on the background noise monitoring data conducted at the proposed development location.

Table 11– Environmental Noise Emission Criteria

Location	Time Period	Assessment Background Noise Level dB(A)L_{90}	Project Amenity Criteria dB(A) L_{eq}	Intrusiveness Criteria Background + 5 dB(A) $L_{eq(15min)}$	Resultant criteria
Nearby Residences	Day	49	53	54	53
	Evening	48	43	52	43
	Night	43	38	48	38

7.2 MECHANICAL PLANT

Mechanical plant items are not typically selected at DA stage.

Detailed review of all external mechanical plant should be undertaken at construction certificate stage (once plant selections and locations are finalised).

Summary for noise emission criteria associated with the development has been summarised in section 7.1 of this report. All plant can be satisfactorily attenuated to levels complying with noise emission criteria through appropriate location and (if necessary) standard acoustic treatments such as noise screens to roof top plant, enclosures, in-duct treatments (silencers/lined ducting) or similar.

8 CONCLUSION

This report presents our assessment of environmental noise emission and external noise intrusion for the proposed Stage 2 residential development located at Lot 101, DP1267563, Somme Avenue, Edmondson Park.

The internal noise assessment was made in reference to the following documents:

- Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008;
- Australian and New Zealand AS/NZS 2107:2016 *'Recommended design sound levels and reverberation times for building interiors';*

External noise emission criteria have been setup in this report to satisfy the requirements below;

- Liverpool City Council Development Control Plan 2008 and Local Environmental Plan 2008;
- NSW EPA Noise Policy for Industry (NPfI) 2017;

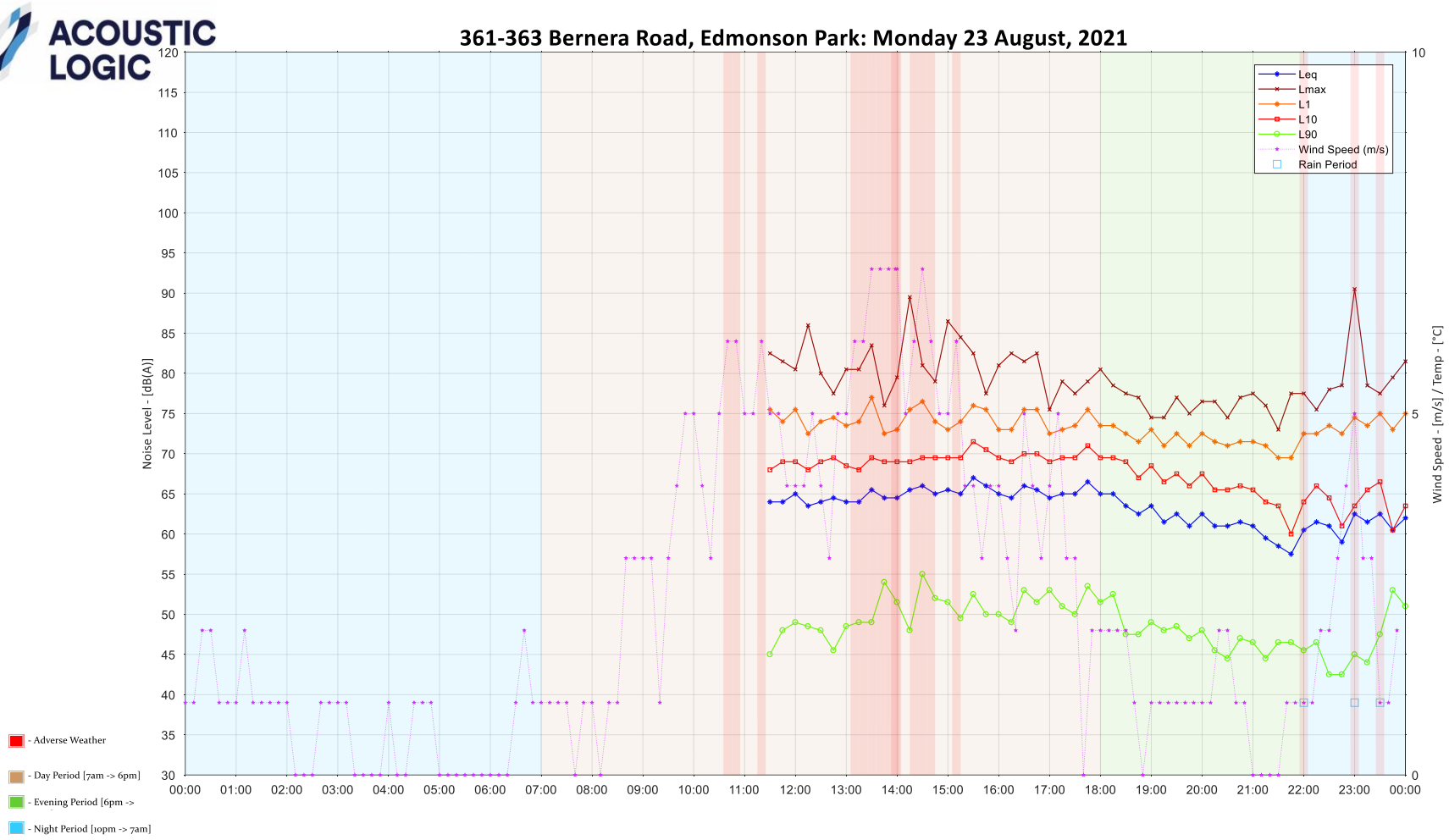
Detailed acoustic control measures for the plant servicing the proposed development will be determined at CC stage.

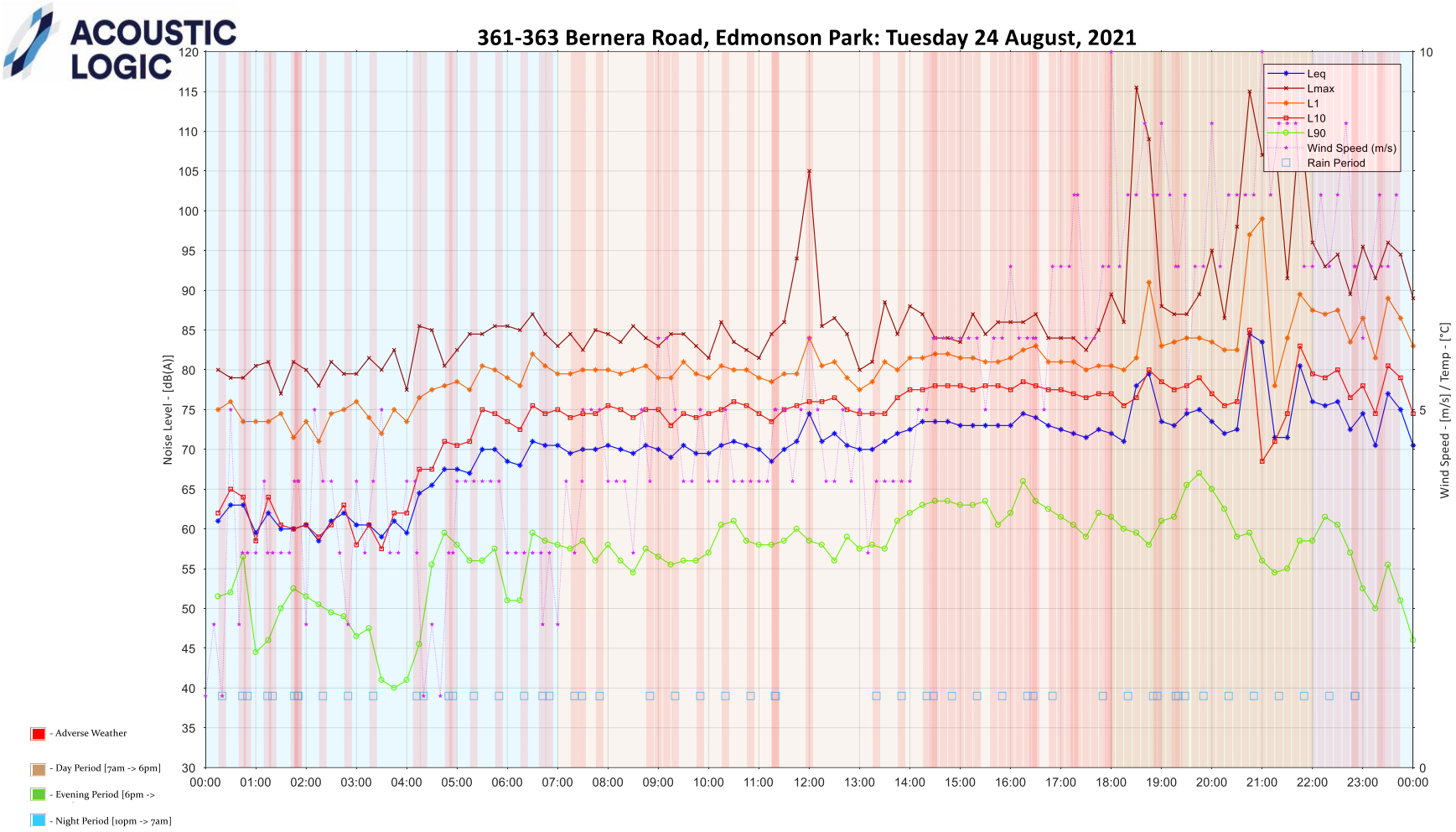
We trust this information is satisfactory. Please contact us should you have any further queries.

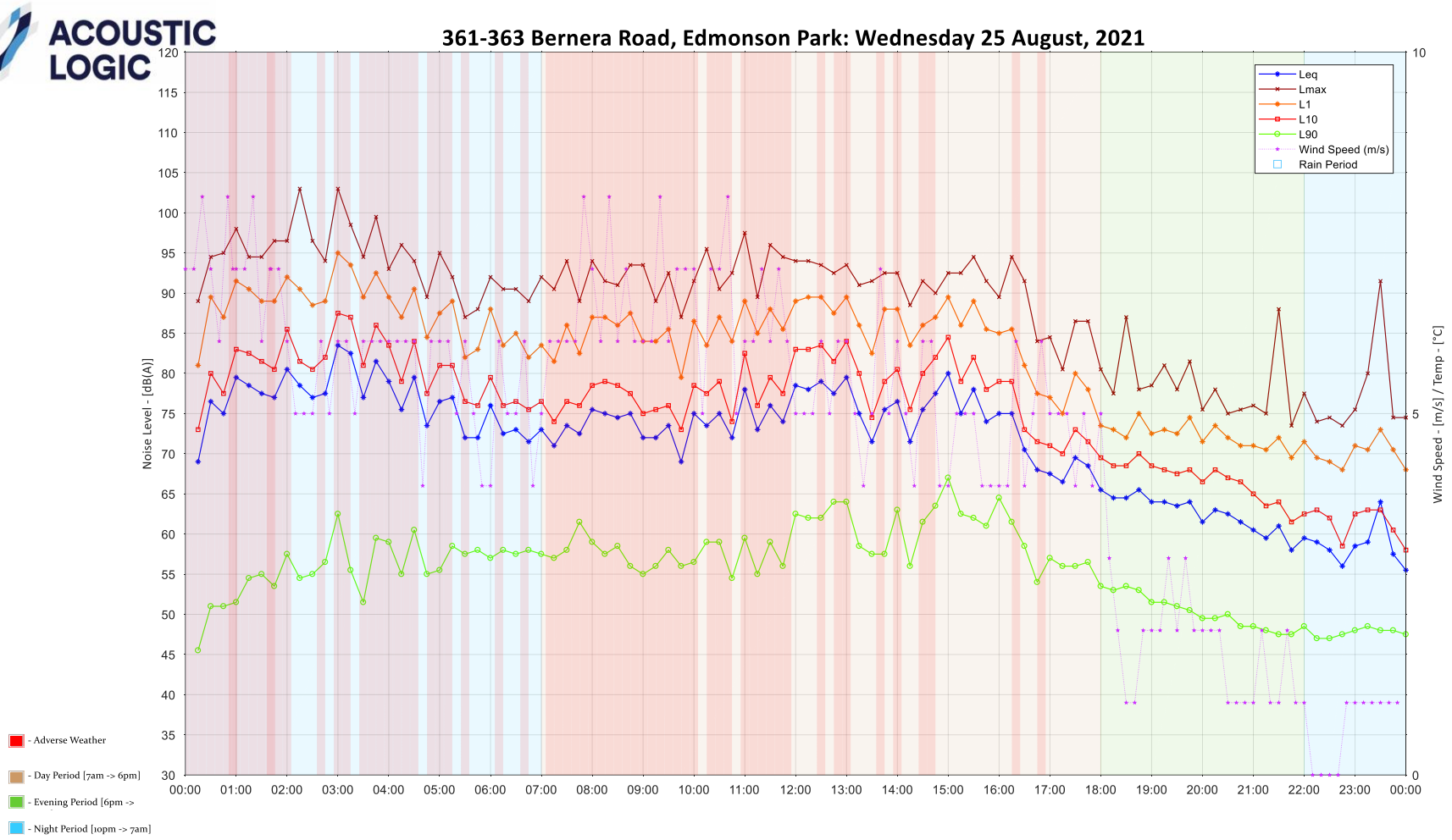
Yours faithfully,

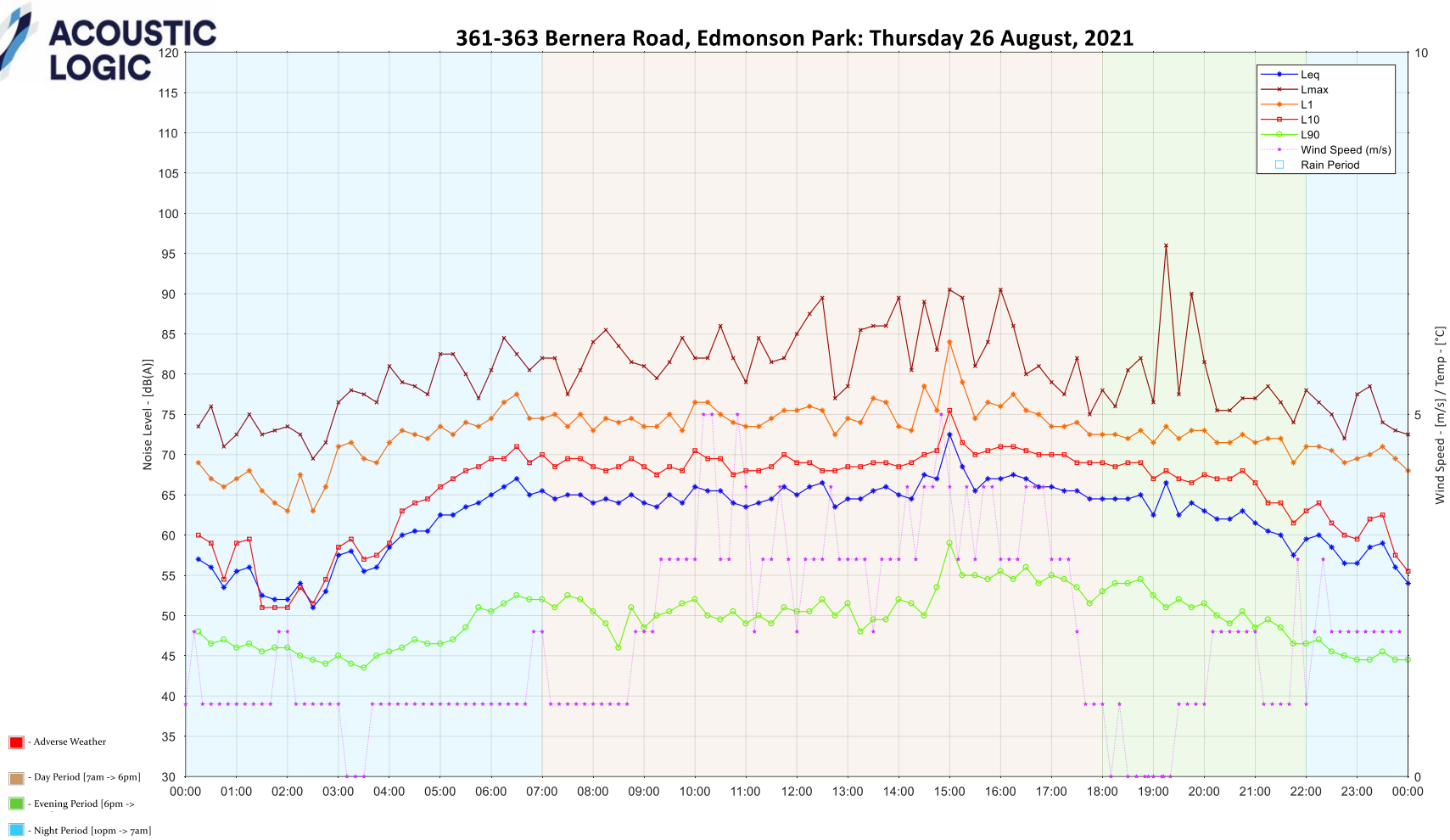
Acoustic Logic Pty Ltd
Glen Campbell
Senior Engineer, MAAS

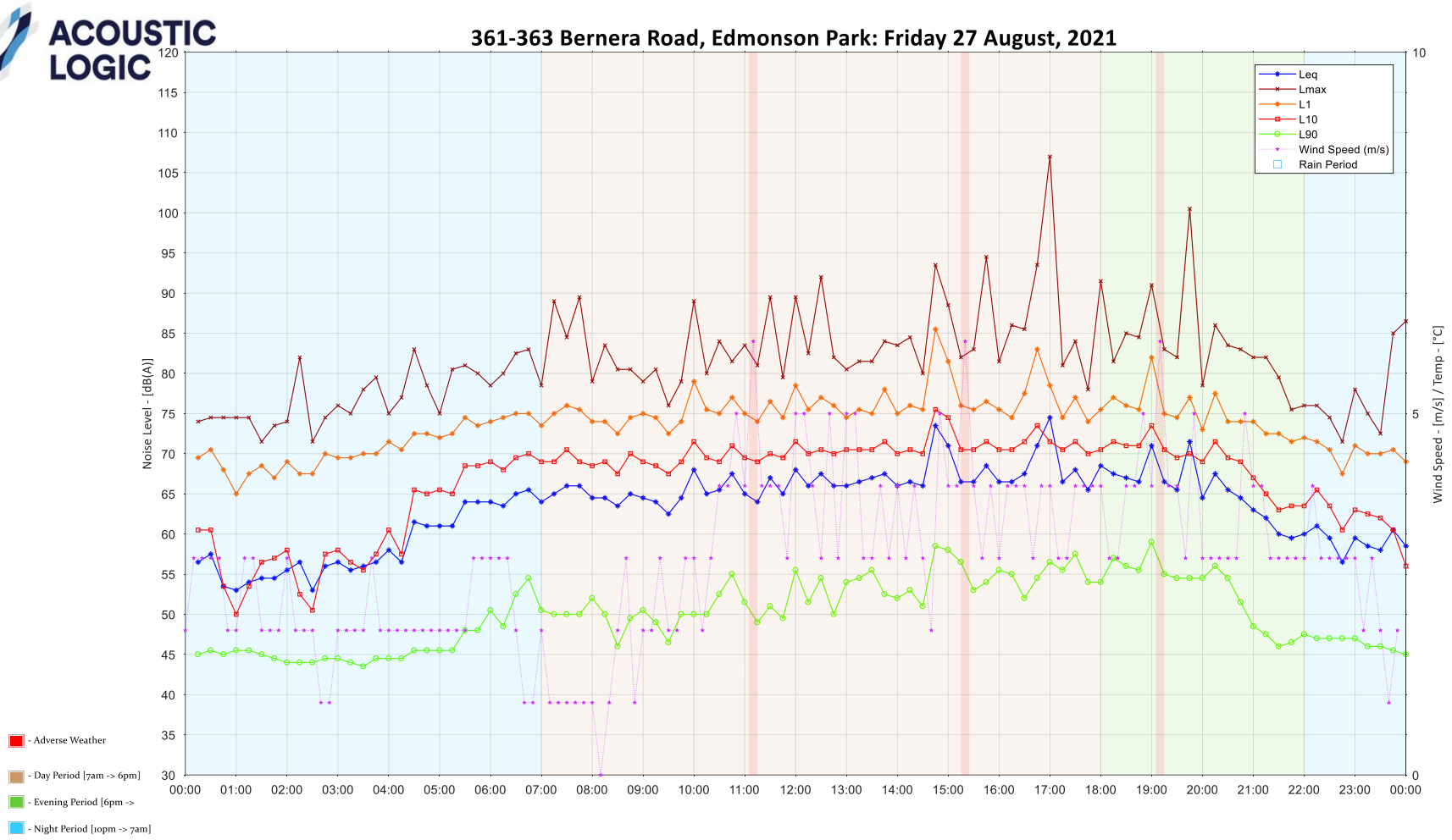
APPENDIX ONE – UNATTENDED NOISE MONITORING DATA


361-363 Bernera Road, Edmonson Park: Monday 23 August, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]

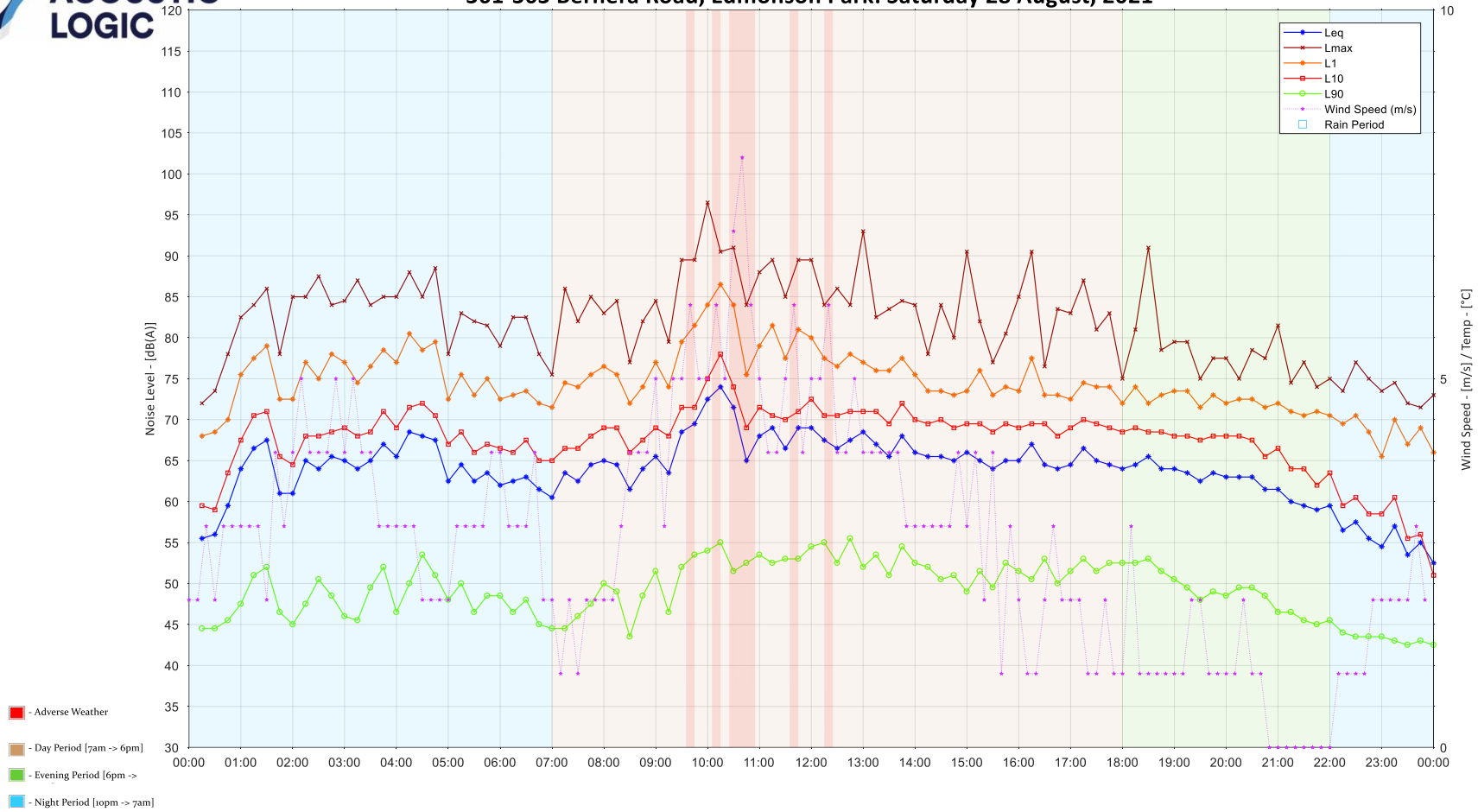

361-363 Bernera Road, Edmonson Park: Tuesday 24 August, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]

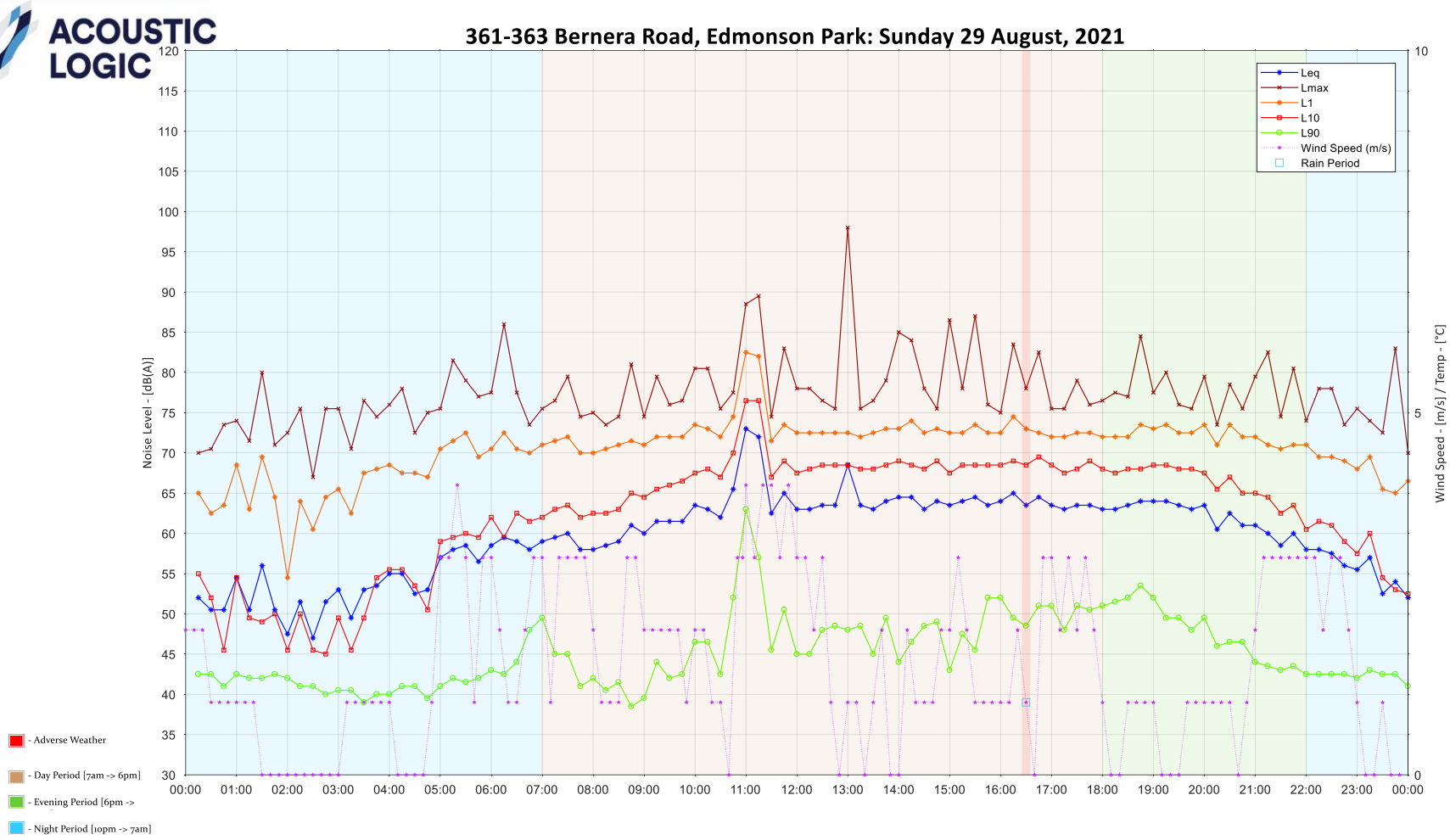

361-363 Bernera Road, Edmonson Park: Wednesday 25 August, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]

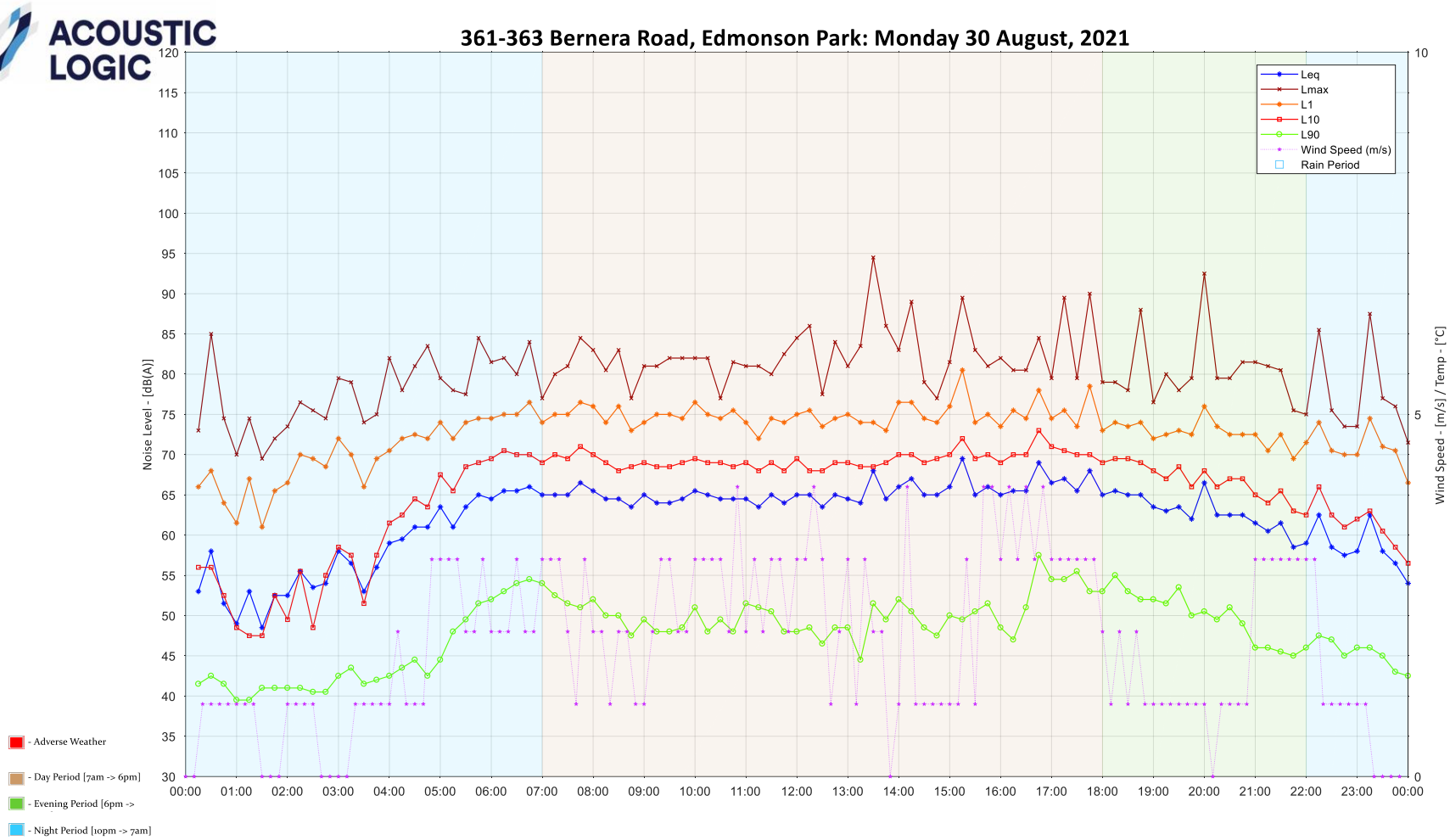

361-363 Bernera Road, Edmonson Park: Thursday 26 August, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]

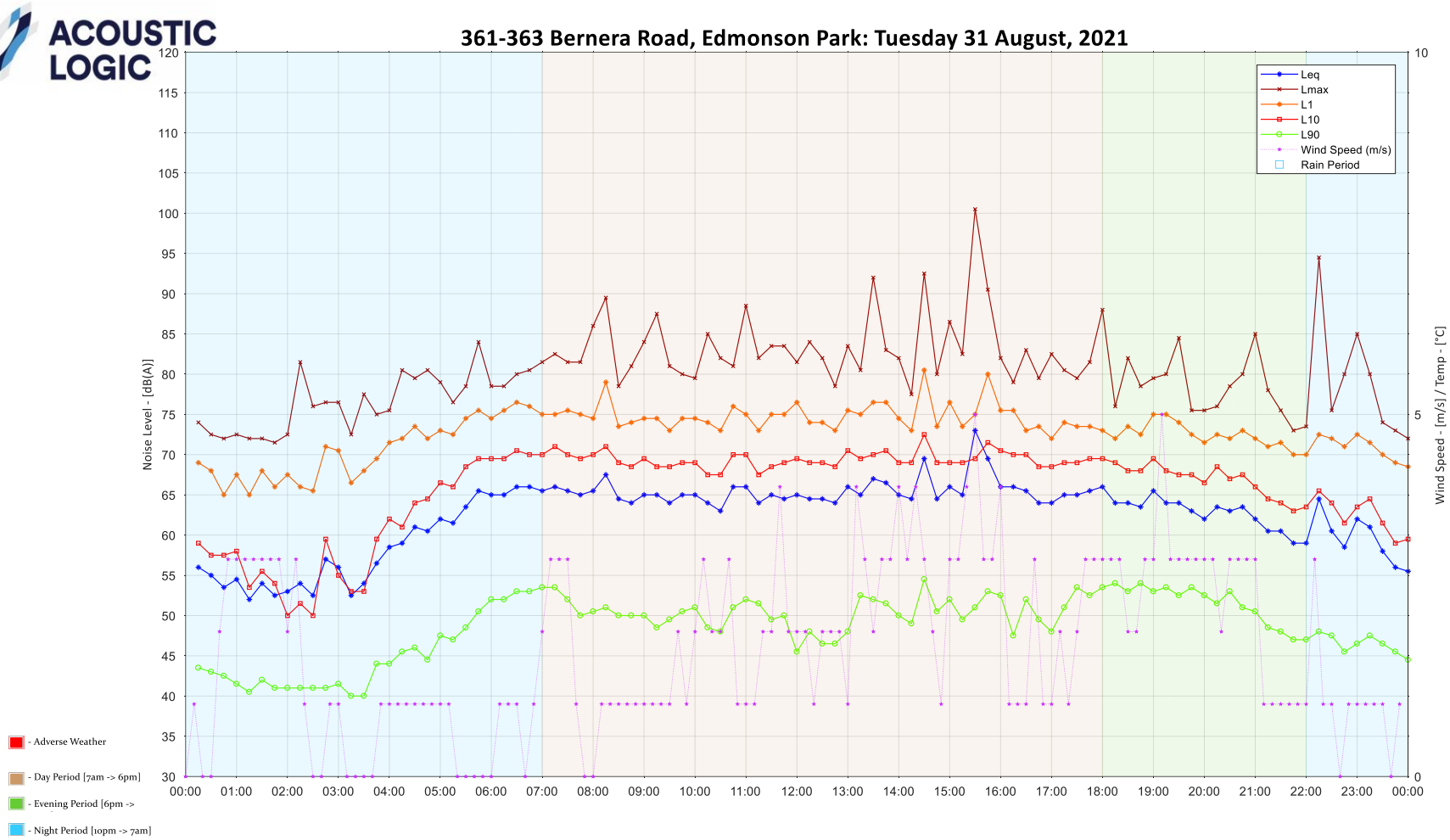

361-363 Bernera Road, Edmonson Park: Friday 27 August, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]

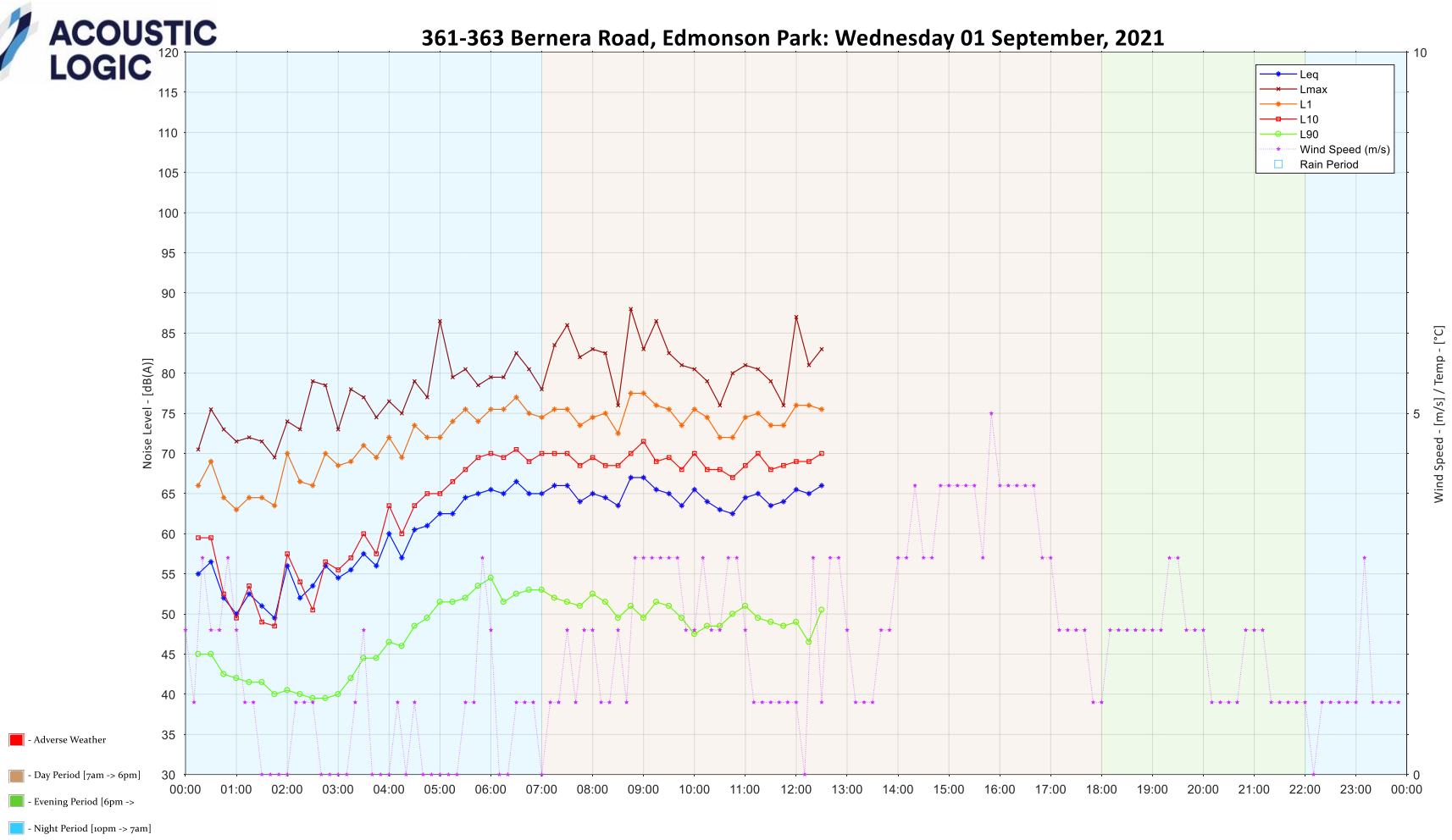
361-363 Bernera Road, Edmonson Park: Saturday 28 August, 2021




361-363 Bernera Road, Edmonson Park: Sunday 29 August, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]


361-363 Bernera Road, Edmonson Park: Monday 30 August, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]


361-363 Bernera Road, Edmonson Park: Tuesday 31 August, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]


361-363 Bernera Road, Edmonson Park: Wednesday 01 September, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
Lmax
L1
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm ->
- Night Period [10pm -> 7am]

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