



# DA ACOUSTIC REPORT

---

Fresh Hope Care, 154–162 Stafford Street, Penrith

**ID: 102FHC R01v1**

**23 April 2020**

**Prepared For:**

Joanne Mcintosh

Fresh Hope, C/- McKees  
154-162 Stafford Street,  
Penrith NSW 2750

Email: [jmcintosh@mckees.com.au](mailto:jmcintosh@mckees.com.au)

**DOCUMENT INFORMATION**

**Author:** Sri Harsha Eati

**Checked By:** Joel Parry-Jones



**Issue:** R01

**Version:** 1

Date	Version	To	Email
8/04/2020	A DRAFT	Joanne Mcintosh	jmcintosh@mckees.com.au
23/04/2020	1	Joanne Mcintosh	jmcintosh@mckees.com.au

**Prepared By:**

PJ Knowland Pty. Ltd.

*t/a PKA Acoustic Consulting*

PO Box 345, Lane Cove NSW 1595

ABN 87 256 407 546, ACN 621 896 204

T (02) 9460 6824 · E admin@pka.com.au



## CONTENTS

1.0	INTRODUCTION	5
2.0	SITE DESCRIPTION	6
2.1	Site Overview	6
2.2	Sensitive Receivers	6
2.3	Site Plan	7
3.0	PROJECT NOISE CRITERIA	8
3.1	Penrith Council Acoustic Requirements (Ref PL18/0101)	8
3.2	NSW EPA Noise Policy for Industry (NPfI)	8
3.3	General Construction Vibration Criteria	9
3.4	EPA NSW Interim Construction Noise Guidelines (ICNG)	10
3.5	BCA Sound Insulation Requirements – Class 3 Buildings	11
3.6	AS/NZS 2107:2016 – Residential Buildings	13
4.0	NOISE SURVEY	14
4.1	Instrumentation	14
4.2	Project Noise Goals	14
5.0	DISCUSSION	16
	Car Park Activity	16
	Use of communal rooms and areas	16
	Mechanical Noise to other residential receivers	16
	Mechanical Noise within the development (AS2107:2015)	16
6.0	RECOMMENDATIONS	17
	APPENDIX A DRAWINGS USED TO PREPARE REPORT	18
	APPENDIX B NOISE MEASUREMENTS (GRAPHICAL)	19

---

*This firm is a member of the Association of Australian Acoustical Consultants.*

*The work reported herein has been carried out in accordance with the terms of membership. We stress that the advice given herein is for acoustic purposes only, and that the relevant authorities should be consulted with regard to compliance with regulations governing areas other than acoustics.*

## LIST OF FIGURES

Figure 2-1 Site Location	6
Figure 2-2 Proposed Site Plan – Ground Floor	7
Figure 2-3 Proposed Site Plan – First Floor	7

## LIST OF TABLES

Table 3-1 Noise Criteria - Amenity for Receiver Buildings	8
Table 3-2 Noise Levels Residential Receivers (Extract from EPA ICNG)	10
Table 3-3 Walls – Deemed-to-Satisfy Provisions	11
Table 3-4 Floors – Deemed-to-Satisfy Provisions	12
Table 3-5 Walls – Verification Methods	12
Table 3-6 Floors – Verification Methods	12
Table 3-7 Recommended Indoor Design Sound Levels	13
Table 4-1 NPfl Project Noise Trigger Levels for premises exposed to traffic noise (R1 & R2)	14
Table 4-2 NPfl Project Noise Trigger Levels for premises shielded from traffic noise (R3 & R4)	15
Table 4-3 Construction site-specific noise goals	15

## 1.0 INTRODUCTION

PKA Acoustic Consulting (PKA) has been commissioned by McKees Legal Solutions (Client) to prepare DA acoustic report for submission Penrith Council (Council) for the proposed Fresh Hope Care residential aged care development at 154 – 162 Stafford Street, Penrith.

The purpose of this DA acoustic report is to establish the following:

- Existing ambient (background) noise levels at the site and surrounding residential receivers.
- Mechanical plant noise breakout goals for future detailed design.
- Sound insulation requirements of the Building Code of Australia (BCA).
- Construction Noise & Vibration noise limits.

## 2.0 SITE DESCRIPTION

### 2.1 Site Overview

The proposed aged care residential premises are located at 154 – 162 Stafford Street. The development is bound by Stafford Street to the north and Doonmore Street to the west with residential receivers located across both the streets. There are other existing residential premises adjoining the proposed site on the remaining sides. The site location is shown in Figure 2-1.

**Figure 2-1 Site Location**



### 2.2 Sensitive Receivers

**Residential Receiver 1 (R1)** – 68 Doonmore Street, Penrith is located to the immediate south-west of the proposed aged care development.

**Residential Receiver 2 (R2)** – 152 Stafford Street, Penrith is located to the immediate east of the proposed aged care development.

**Residential Receiver 3 (R3)** – 150 Stafford Street, Penrith is located to the immediate east of the proposed aged care development.

**Residential Receiver 4 (R4)** – 25-27 Cronin Street and 72 Doonmore Street are located to the immediate south of the proposed aged care development.

### 2.3 Site Plan

Figure 2-2 Proposed Site Plan – Ground Floor

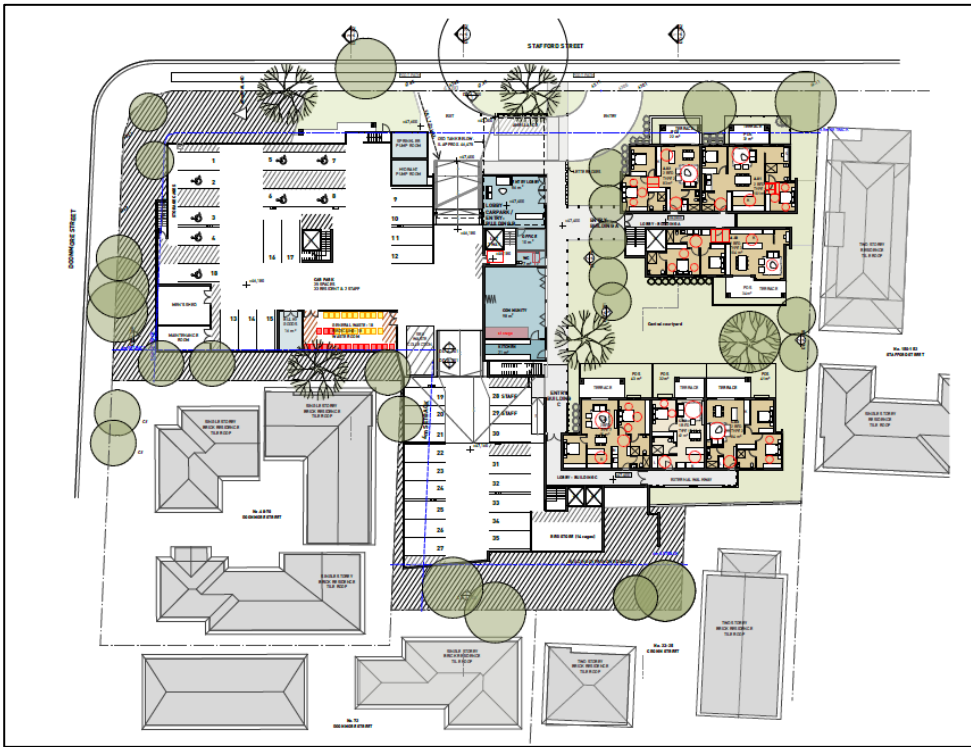


Figure 2-3 Proposed Site Plan – First Floor



### 3.0 PROJECT NOISE CRITERIA

#### 3.1 Penrith Council Acoustic Requirements (Ref PL18/0101)

An acoustic assessment is required to be submitted as a part of the development application to demonstrate that the proposed development will not have any impact on nearby sensitive receivers. This report is to be prepared by a suitably qualified acoustic consultant, and is to consider:

- The ‘NSW Noise Policy for Industry’ in terms of assessing the noise impacts associated with the development, including noise from the indoor and outdoor communal spaces on internal residents as well as surrounding properties (including their outdoor spaces), the car parking spaces, as well as any mechanical plant associated with air conditioning for individual units and mechanical ventilation for the basement;
- The AS/NZS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors in terms of ensuring that internal noise levels can be achieved; and
- The Interim Construction Noise Guideline in assessing the impacts associated with the construction phase of the development.
- Should mitigation measures be necessary, recommendations should be included to this effect. Recommendations and mitigation measures must be shown on all architectural plans.

#### 3.2 NSW EPA Noise Policy for Industry (NPfi)

Noise generated from commercial and industrial premises and from mechanical noise is generally assessed against the requirements of *Industrial Noise Policy (2000)*, which has been reviewed and superseded by the current *NSW EPA Noise Policy for Industry 2017 (NPfi)*. The policy sets out two separate criteria to ensure environmental noise objectives are met. The first criterion considers intrusive noise to residential properties and the second is set to ensure the amenity of the land use is protected. The lower value of both criteria is considered to be the Project noise trigger level, which is the limit of the  $L_{Aeq\ 15min}$  noise level that must not be exceeded for the corresponding period of the day.

##### Amenity Criterion

To limit continuing increases in noise levels, the maximum ambient noise level within an area from commercial noise sources should not normally exceed the levels as specified in Table 2.2 of the policy for the specified time of the day. The NPfi recommends the following Amenity Noise Levels for various receiver premises.

**Table 3-1 Noise Criteria - Amenity for Receiver Buildings**

All values in dB(A)

Type of receiver	Time of day	Recommended Amenity Noise Level $L_{Aeq}$ (period)
Residential (Suburban)	Day	55
	Evening	45
	Night	40



To ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area, a project amenity noise level applies for each new source of industrial noise as follows:

Project amenity noise level for development = recommended amenity noise level **minus 5 dB(A)**.

To standardise the time periods for the intrusiveness and amenity noise levels, this policy assumes that the Amenity  $L_{Aeq,15min}$  will be taken to be equal to the  $L_{Aeq, period} + 3$  decibels (dB).

### Intrusiveness Criterion

The intrusiveness of a stationary noise source may be considered acceptable if the average of the maximum A-weighted levels of noise,  $L_{Aeq, 15 \text{ minute}}$  from the source do not exceed by more than 5dB the Rating Background Level (RBL) measured in the absence of the source. This applies during all times of the day and night. There also exists an adjustment factor to be applied as per the character of the noise source. This includes factors such as tonal, fluctuating, low frequency, impulsive, intermittent etc. qualities of noise.

The RBL is determined in accordance with Section 2.3 of the NSW EPA NPfl. The intrusiveness criterion is  $L_{Aeq, 15 \text{ minute}} < RBL+5$ .

### 3.3 General Construction Vibration Criteria

During demolition and excavation there is the potential for vibration impact on the neighbouring buildings' amenity and on structures. The EPA ICNG states that human comfort (amenity) vibration is to be measured and assessed in accordance with *Assessing Vibration – a technical guideline* (DECC 2006).

In general, structural damage due to vibration can be of concern when hammering, blasting, vibration rolling, crushing, piling and other vibration inducing construction works are carried out.

The EPA ICNG does not have specific structural vibration damage criteria however the RTA *Environmental Noise Management Manual* (2001) recommends the use of the following Standards:

- British Standard BS 7385: Part 2: *Evaluation and Measurement for Vibrations in Buildings – Part 2 Guide to Damage Levels from Ground-Borne Vibration*
- AS 2187.2 *Explosives-Storage, transport and use, Part 2: Use of Explosives*
- German Standard DIN 4150, Part 3: *Structural Vibration in Buildings: Effects on Structures*

### 3.4 EPA NSW Interim Construction Noise Guidelines (ICNG)

NSW EPA Interim Construction Noise Guideline (ICNG) is used for the assessment.

The document aims at managing noise from construction works regulated by the EPA. Details of noise limits are presented in the following Table 3-2.

**Table 3-2 Noise Levels Residential Receivers (Extract from EPA ICNG)**

Time of day	Management level $L_{Aeq} (15 \text{ min})$	Application
Recommended standard hours:  Monday to Friday 7 am to 6 pm	Noise affected RBL + 10 dB	<p>The noise affected level represents the point above which there may be some community reaction to noise.</p> <p>Where the predicted or measured <math>L_{Aeq} (15 \text{ min})</math> is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level.</p> <p>The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.</p>
Saturday 8 am to 1 pm  No work on Sundays or public holidays	Highly noise affected 75 dB	<p>The highly noise affected level represents the point above which there may be strong community reaction to noise.</p> <p>Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.</p>
Outside recommended standard hours	Noise affected RBL + 5 dB	<p>A strong justification would typically be required for works outside the recommended standard hours.</p> <p>The proponent should apply all feasible and reasonable work practices to meet the noise affected level.</p> <p>Where all feasible and reasonable practices have been applied and noise is more than 5 dB above the noise affected level, the proponent should negotiate with the community.</p>

### 3.5 BCA Sound Insulation Requirements – Class 3 Buildings

The BCA, in Volume 1 Section F5 “Sound Transmission and Insulation” states that walls and floors separating places of occupancy “*must provide insulation against the transmission of airborne and impact generated sound sufficient to prevent illness or loss of amenity to the occupants*”.

The following summarises the BCA sound insulation requirements, brevity necessitates detail in the BCA taking precedence over the tables below.

**Table 3-3 Walls – Deemed-to-Satisfy Provisions**

Wall Description	BCA Reference	Airborne	Impact
Separating sole-occupancy units (SOUs) habitable areas	F5.5(a)(i)	$R_w + C_{tr} \geq 50$	
Separating SOUs wet to habitable areas	F5.5(a)(i) F5.5(a)(iii)	$R_w + C_{tr} \geq 50$	Discontinuous Construction
Separating SOUs with corridor, stairway, lobby or different classification	F5.5(a)(ii)	$R_w \geq 50$	
Separating SOUs with plantroom or lift shaft	F5.5(a)(ii) F5.5(a)(iii)	$R_w \geq 50$	Discontinuous Construction
Separating SOU habitable area with services from another SOU	F5.6(a)(i)	$R_w + C_{tr} \geq 40$	
Separating SOU wet area with services from another SOU	F5.6(a)(ii)	$R_w + C_{tr} \geq 25$	
Doors separating SOU with corridor, stairway, lobby	F5.5(b)	$R_w \geq 30$	

Appendix A Wall Type	Appendix B Reference	Appendix C Discontinuous Construction Requirement
Masonry	F5.3(c)(i)	Wall having a minimum 20mm cavity between the 2 separate leaves, with resilient wall ties if necessary
Other than masonry	F5.3(c)(ii)	Wall having a minimum 20mm cavity with no mechanical linkage except at the periphery

**Table 3-4 Floors – Deemed-to-Satisfy Provisions**

Floor Description	BCA Reference	Airborne	Impact
Separating sole-occupancy units (SOUs)	F5.4(a)(i)	$R_w + C_{tr} \geq 50$	$L_{n,w} \leq 62$
Separating SOUs with plantroom, lift shaft, corridor, stairway, lobby or different classification	F5.4(a)(ii)	$R_w + C_{tr} \geq 50$	$L_{n,w} \leq 62$
Separating SOU habitable area with services from another SOU	F5.6(a)(i)	$R_w + C_{tr} \geq 40$	
Separating SOU wet area with services from another SOU	F5.6(a)(ii)	$R_w + C_{tr} \geq 25$	

**Table 3-5 Walls – Verification Methods**

Wall Description	BCA Reference	Airborne
Separating sole-occupancy units (SOUs)	FV5.2(a)	$D_{nT,w} + C_{tr} \geq 45$
Separating SOUs with plantroom, lift shaft, corridor, stairway, lobby or different classification	FV5.2(b)	$D_{nT,w} \geq 45$
Doors separating SOUs with corridor, stairway, lobby	FV5.2(c)	$D_{nT,w} \geq 25$

**Table 3-6 Floors – Verification Methods**

Floor Description	BCA Reference	Airborne	Impact
Separating sole-occupancy units (SOUs)	FV5.1(a) FV5.1(b)	$D_{nT,w} + C_{tr} \geq 45$	$L_{nT,w} \leq 62$

### Discussion of BCA Sound Insulation Criteria

PKA considers the various sound insulation criteria in the BCA to be of a reasonably high standard. In some instances, we deem the BCA to be inadequate or overly stringent. The following discusses PKA’s position on some key aspects of the BCA.

### Discussion of BCA Floor Impact

PKA considers the BCA floor impact sound insulation criteria of  $L_{n,w} \leq 62$  and verification criteria of  $L_{nT,w} \leq 62$  to be of a poor standard which typically results in noise complaints from adjoining occupants.

The Association of Australian Acoustical Consultants (AAAC) in their document *“Guideline of Apartment and Townhouse Acoustic Rating 2010”* rates the BCA impact sound insulation criteria to be a 2 Star Rating. For the development, PKA recommends aiming to achieve a AAAC 3 Star Rating for impact sound insulation of floors separating SOUs which provides at least an additional 7dB of improvement over the BCA criteria.

**Other BCA Acoustic Issues**

The builder must also ensure that the project complies with following BCA acoustic requirements:

**Chasing of Masonry Elements**

The BCA specifically precludes chasing of services into concrete or masonry elements. (Clause 2. (e)(i)).

**Fixing of Water Supply Pipework**

Note Clause 2. (iii) (A) and (B).

A water supply pipe must:

- (A) Only be installed in the cavity of discontinuous construction; and
- (B) In the case of a pipe that serves only one sole occupancy unit, not be fixed to the wall leaf on the side adjoining any other sole-occupancy unit and have a clearance not less than 10mm to the other wall leaf.  
(i.e. the cavity must not be bridged by any pipework)

**Electrical Outlets**

The BCA requires that any electrical outlets must be offset from each other:

- (A) in masonry walling, not less than 100mm; and
- (B) in timber or steel framed walling, not less than 300mm

**Ducts**

Ducts serving or passing through more than one SOU per F5.6(a) must be separated from another SOU by masonry or plasterboard construction having a minimum  $R_w + C_{tr}$  of 40 for habitable rooms and  $R_w + C_{tr}$  of 25 for non-habitable rooms.

**3.6 AS/NZS 2107:2016 – Residential Buildings**

Australian Standard AS/NZS 2107:2016 provides recommendations and design criteria regarding reverberation times and ambient sound levels for various building interiors including residential premises. These recommended indoor design levels are shown in the table below:

**Table 3-7 Recommended Indoor Design Sound Levels**

Type of occupancy/activity	Design sound level ( $L_{Aeq,t}$ ) range dB(A)
<b>Houses &amp; Apartments in suburban areas or near minor roads</b>	
Apartment Common Areas (e.g. foyer, lift lobby)	40 to 45
Living Areas	30 to 40
Sleeping Areas	30 to 35
Work Areas	35 to 40

## 4.0 NOISE SURVEY

Unattended noise monitoring was conducted on site between 14<sup>th</sup> and 21<sup>st</sup> February 2019 to record the ambient and traffic noise levels. The noise monitor was programmed to store the L<sub>n</sub> percentile noise levels for each 15-minute sampling period. Measurements were made of L<sub>min</sub>, L<sub>max</sub>, L<sub>90</sub>, and L<sub>eq</sub> and were later retrieved for analysis.

The positions of the noise monitors are shown in Figure 2-1. The results and summary of the noise monitoring are listed in graphical form in Appendix B of this report.

### 4.1 Instrumentation

Noise measurements were conducted using the following equipment:

- Sound Analyser NTI XL2 Type Approved, Serial number A2A-15268-E0.
- Sound Analyser NTI XL2 Type Approved, Serial number A2A-15268-E0.
- Sound calibrator B&K 4230, Serial number 11419.

The instruments were calibrated before and after the noise measurements and there were no adverse deviations between the two.

The analysers are type 1 and comply with AS IEC 61672.2-2004. The instruments carry traceable calibration certificates.

### 4.2 Project Noise Goals

#### 4.2.1 Mechanical Noise Breakout Goals

The tables below present the results of the ambient noise monitor measurements and the noise goals for noise breakout to surrounding premises.

As a guide, the noise criteria defined in the NPfl are listed below. The assessment periods are defined by the NPfl are as follows:

- Daytime: 7 am to 6 pm, Evening: 6 pm to 10 pm, Night: 10 pm to 7 am.

**Table 4-1 NPfl Project Noise Trigger Levels for premises exposed to traffic noise (R1 & R2)**

All values in dB(A)

Receiver Type	Period	Measured RBL L <sub>A90</sub>	Acceptable Noise Levels L <sub>Aeq(period)</sub>	Noise Criteria		Project Noise Trigger Levels L <sub>Aeq15min</sub>
				NPfl Amenity	NPfl Intrusiveness	
				L <sub>Aeq15min</sub>	L <sub>Aeq15min</sub>	
Residential (Sub-Urban)	Day	42	55	53	47	<b>47</b>
	Evening	45	45	43	50	<b>43</b>
	Night	42	40	38	47	<b>38</b>
Commercial	When in use	As above	65	63	N/A	<b>63</b>

**Table 4-2 NPfl Project Noise Trigger Levels for premises shielded from traffic noise (R3 & R4)**

All values in dB(A)

Receiver Type	Period	Measured RBL L <sub>A90</sub>	Acceptable Noise Levels L <sub>Aeq(Period)</sub>	Noise Criteria		Project Noise Trigger Levels L <sub>Aeq15min</sub>
				NPfl Amenity L <sub>Aeq15min</sub>	NPfl Intrusiveness L <sub>Aeq15min</sub>	
Residential (Sub-Urban)	Day	34	55	53	39	<b>39</b>
	Evening	35	45	43	40	<b>40</b>
	Night	31	40	38	36	<b>36</b>
Commercial	When in use	As above	65	63	N/A	<b>63</b>

**4.2.2 Construction Noise Goals**

Based on the noise monitoring conducted, Table 4-3 below presents the results of ambient, background noise levels and the noise affected level (criterion). The following is considering that the project management intends to do the construction during normal daytime working hours 7am to 6 pm.

**Table 4-3 Construction site-specific noise goals**

Location	Period	Background RBL dB(A)	Noise affected level (Criteria), dB(A)
At residential boundary	Day (7am to 6pm)	42	52

The “Highly Noise Affected” criterion has a set level of 75 dB(A).

## 5.0 DISCUSSION

### Car Park Activity

At the time of preparation of this report, a traffic or car park management plan was not available. However, the movements are expected to be minimal for an aged care premises, especially during the evening and night-time hours.

The plans indicate that the carpark is located in the ground floor and is enclosed by external walls in all the sides. The walls will serve in reducing the noise impact from the proposed car park activity to the surrounding receivers significantly. Therefore, no additional treatment is required.

### Use of communal rooms and areas

As the communal rooms/areas are located centrally within the proposed premises, calculations indicate that the noise impact to other residential receivers will be mitigated by the shielding offered by the proposed buildings surrounding the communal space and the distance loss to the residential boundaries.

This compliance will be achieved assuming that the premises are not used between 10pm and 7am and that no live or reinforced amplified music will be used in the communal premises.

### Mechanical Noise to other residential receivers

At the time of preparation of this report, a selection of equipment is not available. However, coordination has been undertaken to relocate plant items away from boundaries or contained within enclosures or acoustic screens as far as practical.

Based on the final selections, it is anticipated acoustic screens may be required to all condenser plant located on ground or rooftop.

### Mechanical Noise within the development (AS2107:2015)

Measurements were conducted to estimate the noise impact from the nearby traffic noise on site. However, the noise was nominal, and it was determined that no acoustic treatment would be required to mitigate traffic noise intrusion to meet the indoor design sound levels listed in the AS2107:2016.

Based on the final location and selection of plant, there is a potential for upgraded glazing to spaces located nearby plant condenser. This must be determined following the availability of a mechanical schedule at the later stages of the development.



## 6.0 RECOMMENDATIONS

The following recommendations are required to ensure that acoustic compliance is achieved with the recommended acoustic criteria. The recommendations have been based on data provided to PKA for the preparation of this report and assumptions made in the calculations.

### 1. BCA requirements

All walls and floors must be designed to comply with the design requirements listed in Section 3.5 of this report.

### 2. Car Park Activity

We recommend the following management policies be in place:

- The car park drive in area and parking should be limited to 10km/hr for compliance to be maintained.
- Signage be displayed clearly to ensure people in the carpark are sensitive to their noise impact.

### 3. Outdoor Plant and equipment

In addition to the recommended fence, PKA recommends the location of any future outdoor mechanical and plant equipment be positioned away from boundaries adjoining proposed residential receivers. Additionally, the equipment must be selected so that the rated sound power/pressure levels will comply at the boundary of the adjoining residences with the criteria listed in Table 4-1 and Table 4-2 typically applied for mechanical plant noise emissions. This must be checked by a qualified acoustic consultant prior to selection and installation. This applies to mechanical noise intrusion into the habitable spaces within the premises to comply with the AS2107-2015 recommended indoor design levels.

### 4. Communal Areas

- No live performances or amplified music/speech can be used within the communal areas.
- It has been assumed in this assessment that the communal areas will not be used after 10pm. If this is not the case, an assessment will have to be conducted for the night-time hours.

## APPENDIX A DRAWINGS USED TO PREPARE REPORT

This report was prepared using drawings provided by Smith & Tzannes.

No.	Rev.	Title	Date
DD-A-100	A	Level 0 (Ground)	31-03-2020
DD-A-101	A	Level 1	31-03-2020
DD-A-102	A	Level 2	31-03-2020
DD-A-103	A	Roof Level	31-03-2020
DD-A-202	A	Sections	03-04-2020
DD-A-800	-	Area Calculations	20-03-2020
DD-A-801	-	Solar Access	20-03-2020
DD-A-850	-	Shadows – Winter Soltice (1)	20-03-2020
DD-A-851	-	Shadows – Winter Soltice (1)	20-03-2020
DD-A-900	-	Aerial	20-03-2020



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

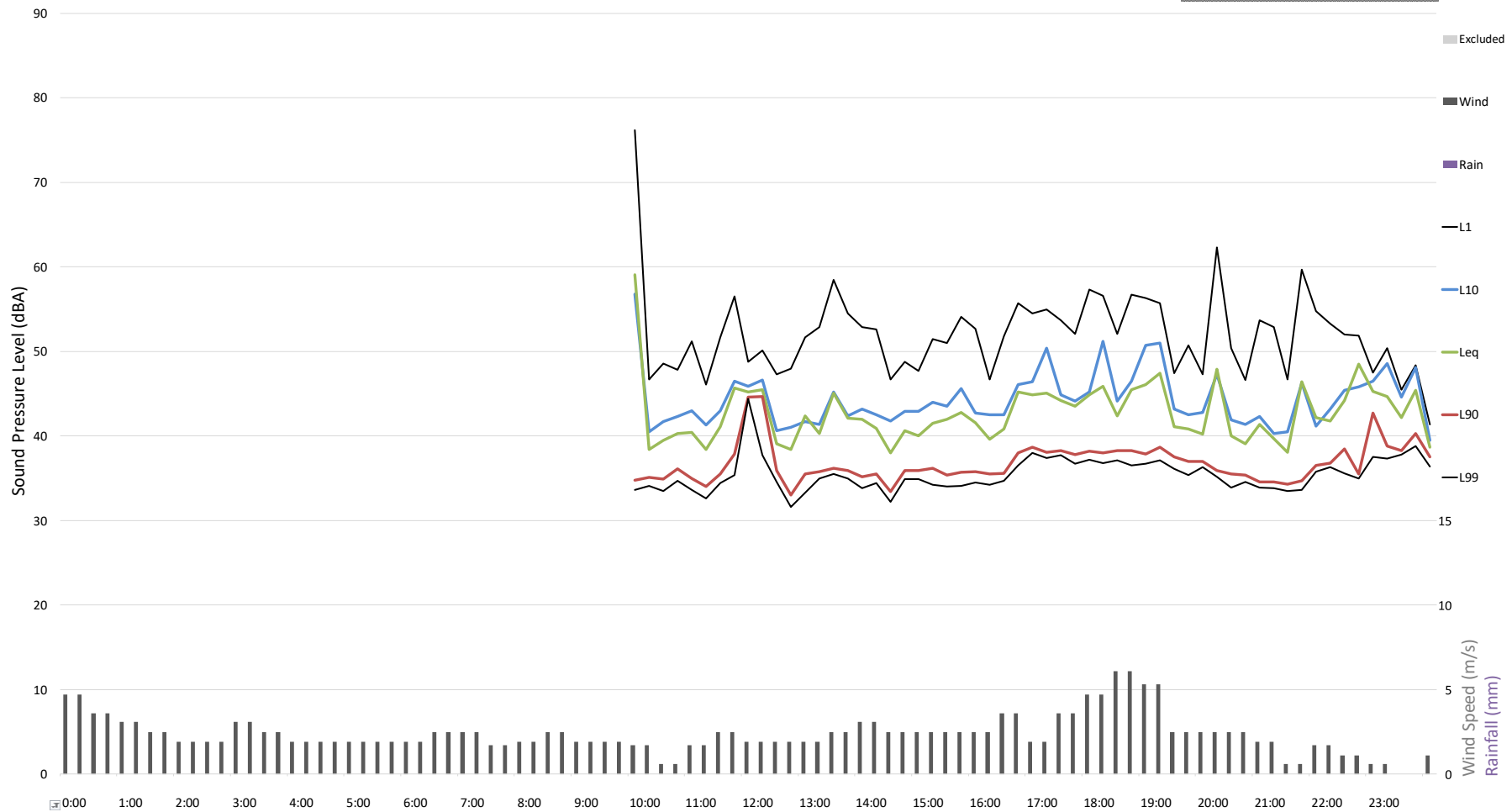
Logger Location: By the boundary of residential receiver at 68 Doonmore Street

BOM weather data: Penrith IDN60901



14-02-19 Thursday  
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB			44.1	44.1	43.2	43.2
L <sub>A90</sub> dB			34.6	34.6	30.7	30.7



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

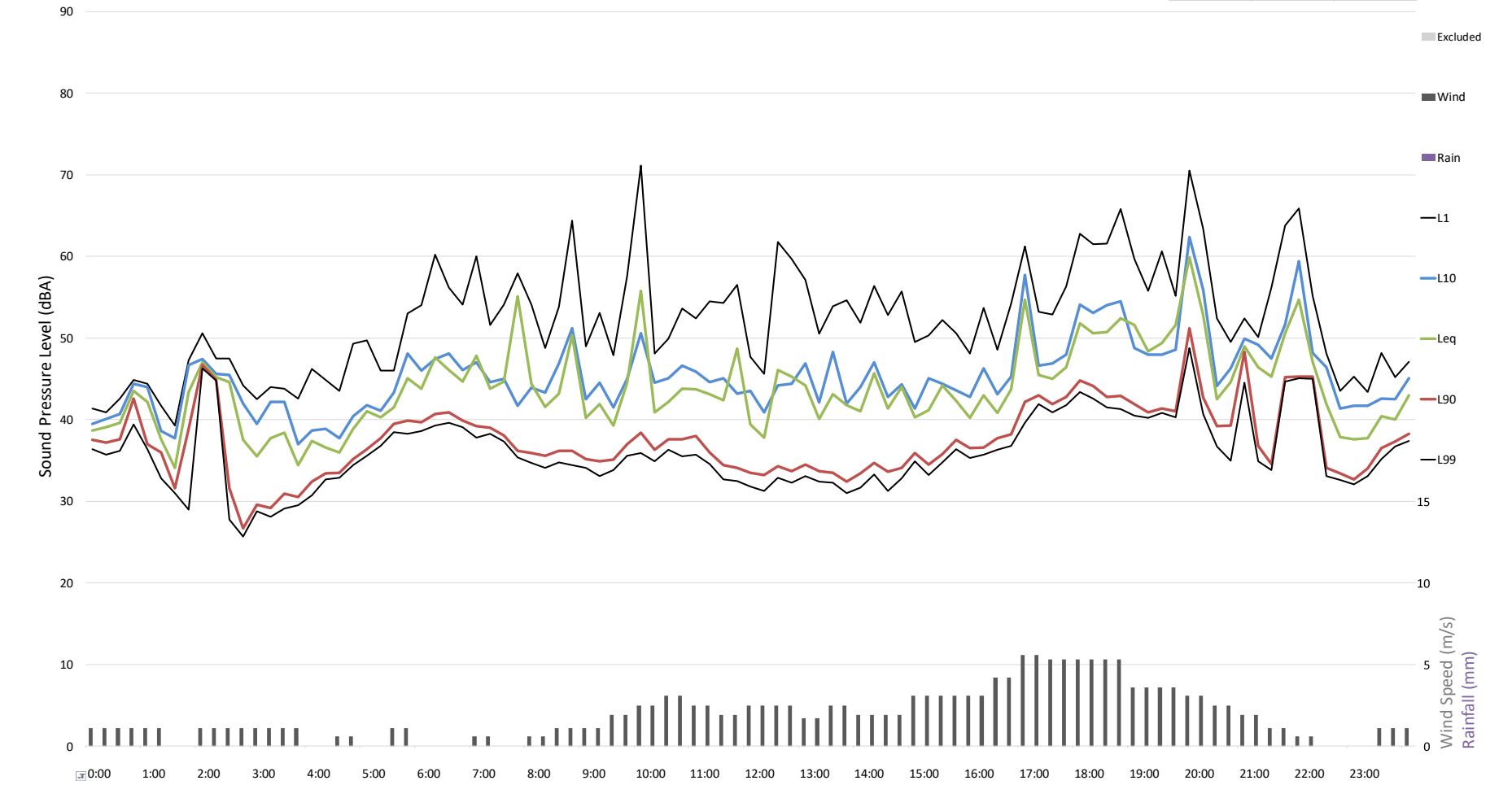
Logger Location: By the boundary of residential receiver at 68 Doonmore Street

BOM weather data: Penrith IDN60901



15-02-19 Friday  
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	46.6	46.6	51.9	51.9	44.9	44.9
L <sub>A90</sub> dB	33.5	33.5	38.0	38.0	34.0	34.0



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

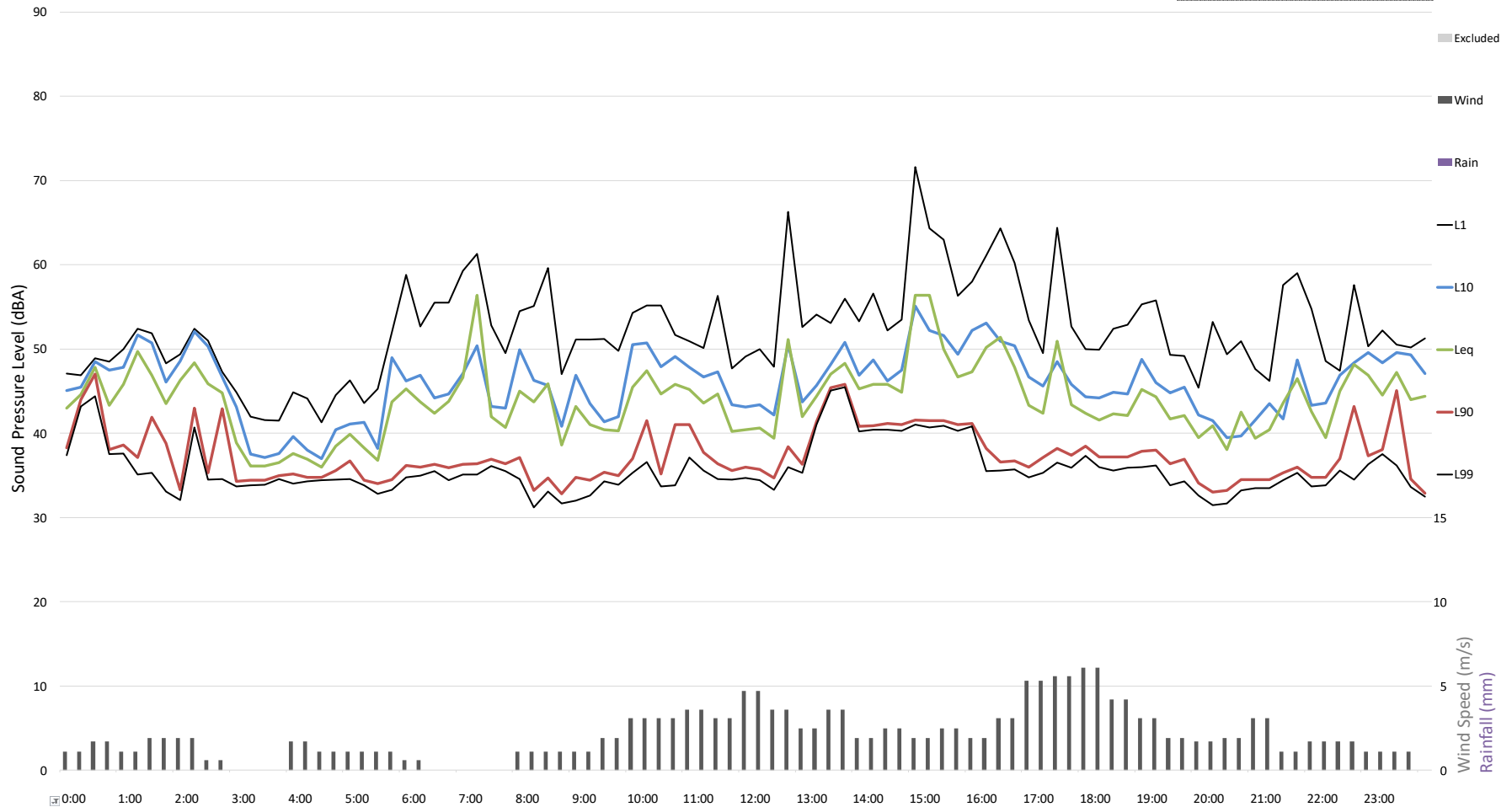
Logger Location: By the boundary of residential receiver at 68 Doonmore Street

BOM weather data: Penrith IDN60901



16-02-19 Saturday  
Existing Ambient Noise Levels (dBA)

	Daytime		Evening		Nighttime		
	07:00 - 18:00	18:00 - 22:00	22:00 - 07:00	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	48.3	48.3	42.6	42.6	44.1	44.1	
L <sub>A90</sub> dB	34.7	34.7	33.7	33.7	28.1	28.1	



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

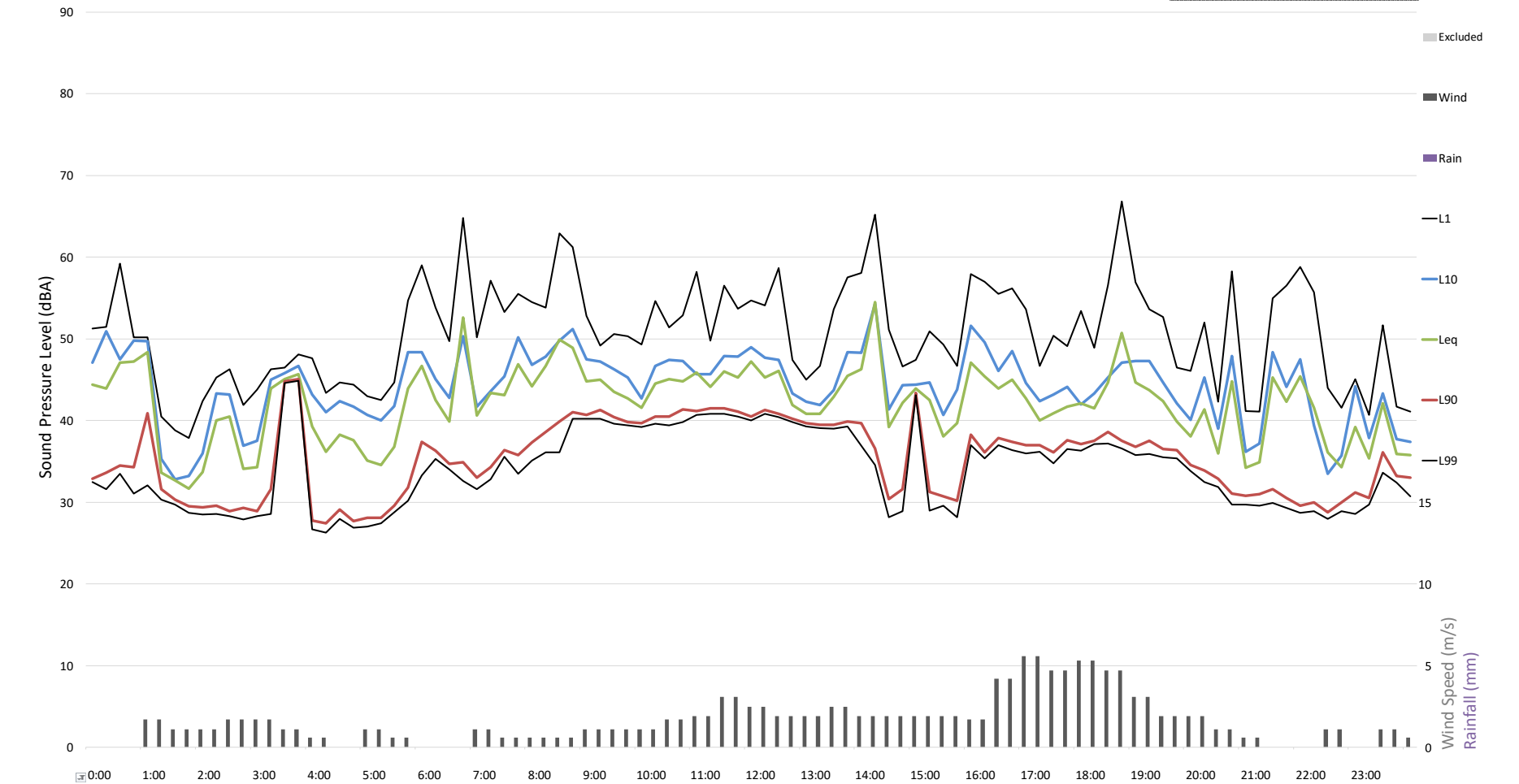
Logger Location: By the boundary of residential receiver at 68 Doonmore Street

BOM weather data: Penrith IDN60901



17-02-19 Sunday  
Existing Ambient Noise Levels (dBA)

	Daytime 08:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 08:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	45.5	45.5	42.0	42.0	44.6	44.6
L <sub>A90</sub> dB	31.6	31.6	30.9	30.9	28.5	28.5



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

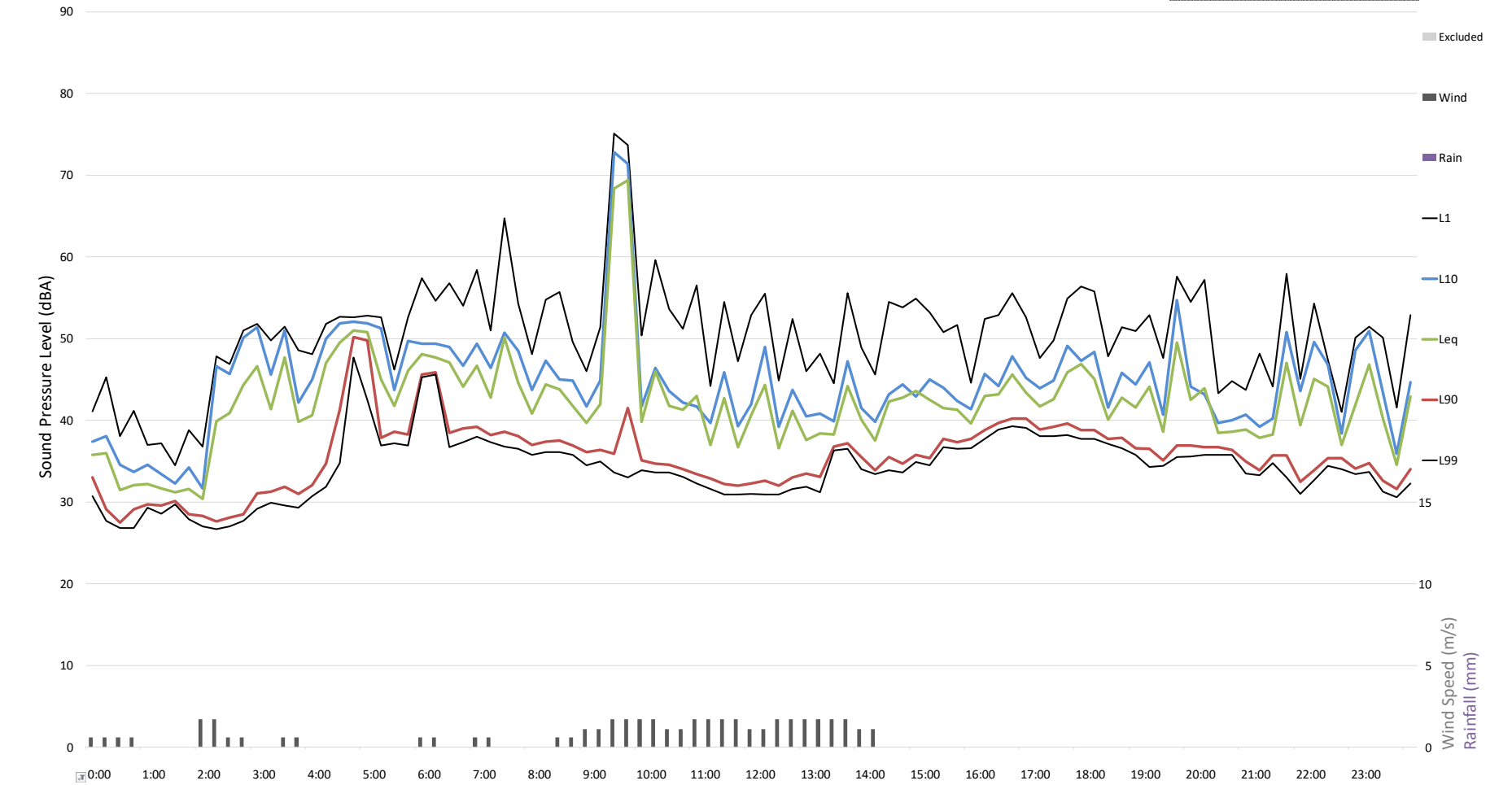
Logger Location: By the boundary of residential receiver at 68 Doonmore Street

BOM weather data: Penrith IDN60901



18-02-19 Monday  
Existing Ambient Noise Levels (dBA)

	Daytime		Evening		Nighttime	
	07:00 - 18:00		18:00 - 22:00		22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	55.7	55.7	43.7	43.7	42.5	42.5
L <sub>A90</sub> dB	32.7	32.7	35.1	35.1	31.1	31.1





### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

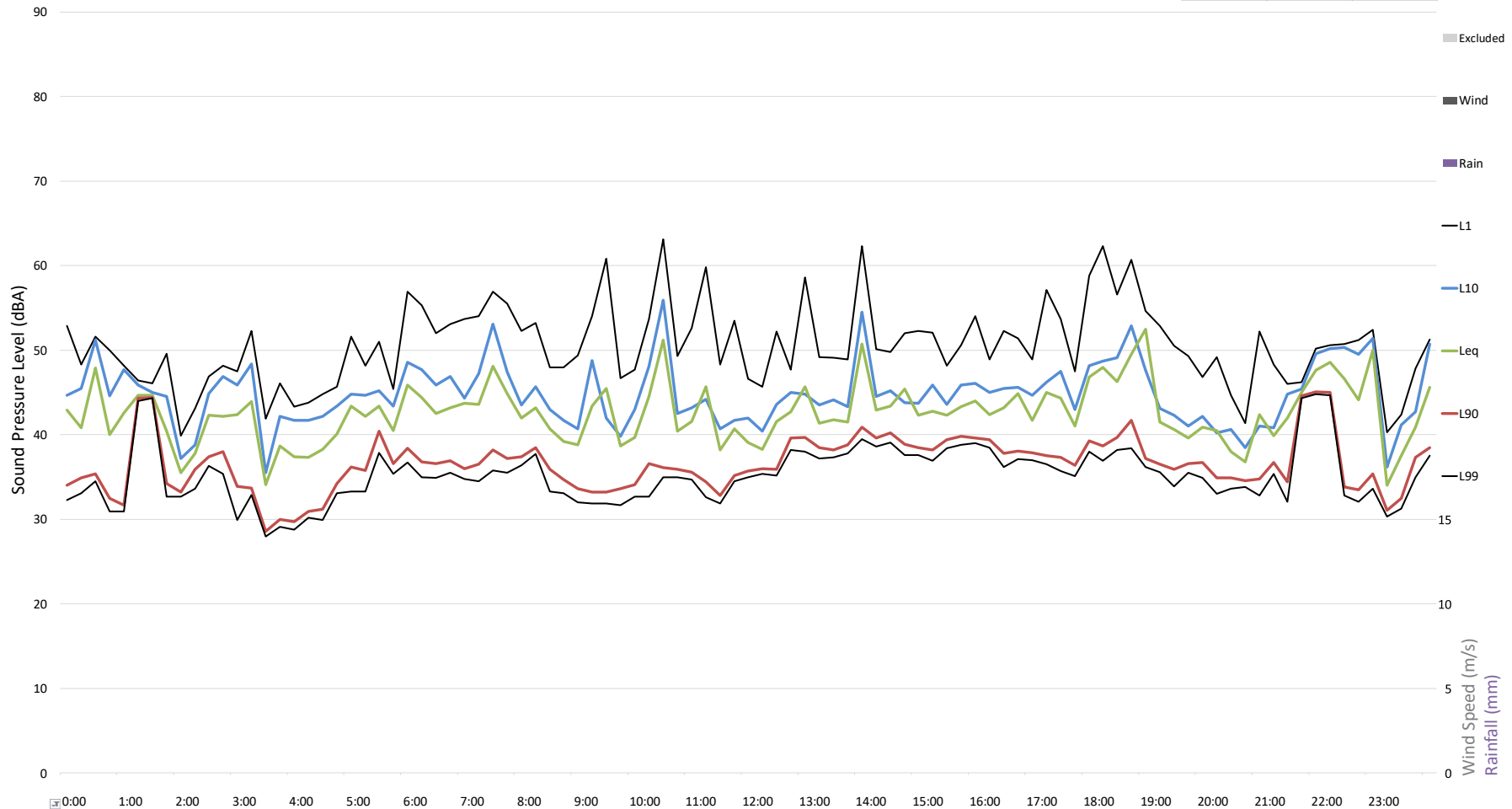
Logger Location: By the boundary of residential receiver at 68 Doonmore Street

BOM weather data: Penrith IDN60901



19-02-19 Tuesday  
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	44.0	44.0	45.5	45.5	45.8	45.8
L <sub>A90</sub> dB	33.8	33.8	34.7	34.7	32.7	32.7



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

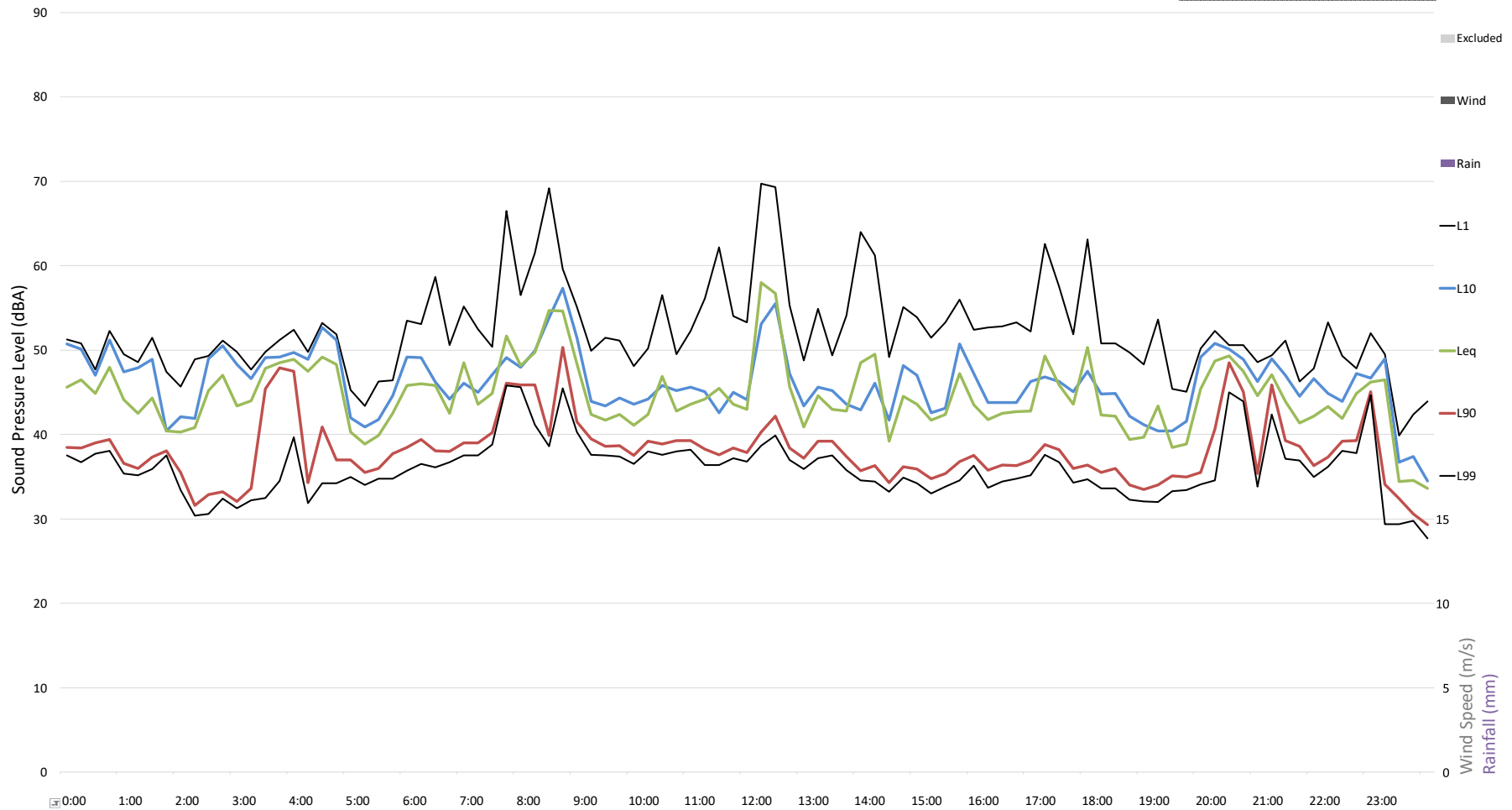
Logger Location: By the boundary of residential receiver at 68 Doonmore Street

BOM weather data: Penrith IDN60901



20-02-19 Wednesday  
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	48.5	48.5	45.5	45.5	42.5	42.5
L <sub>A90</sub> dB	35.8	35.8	34.0	34.0	28.8	28.8



### 11470 Fresh Hope Care

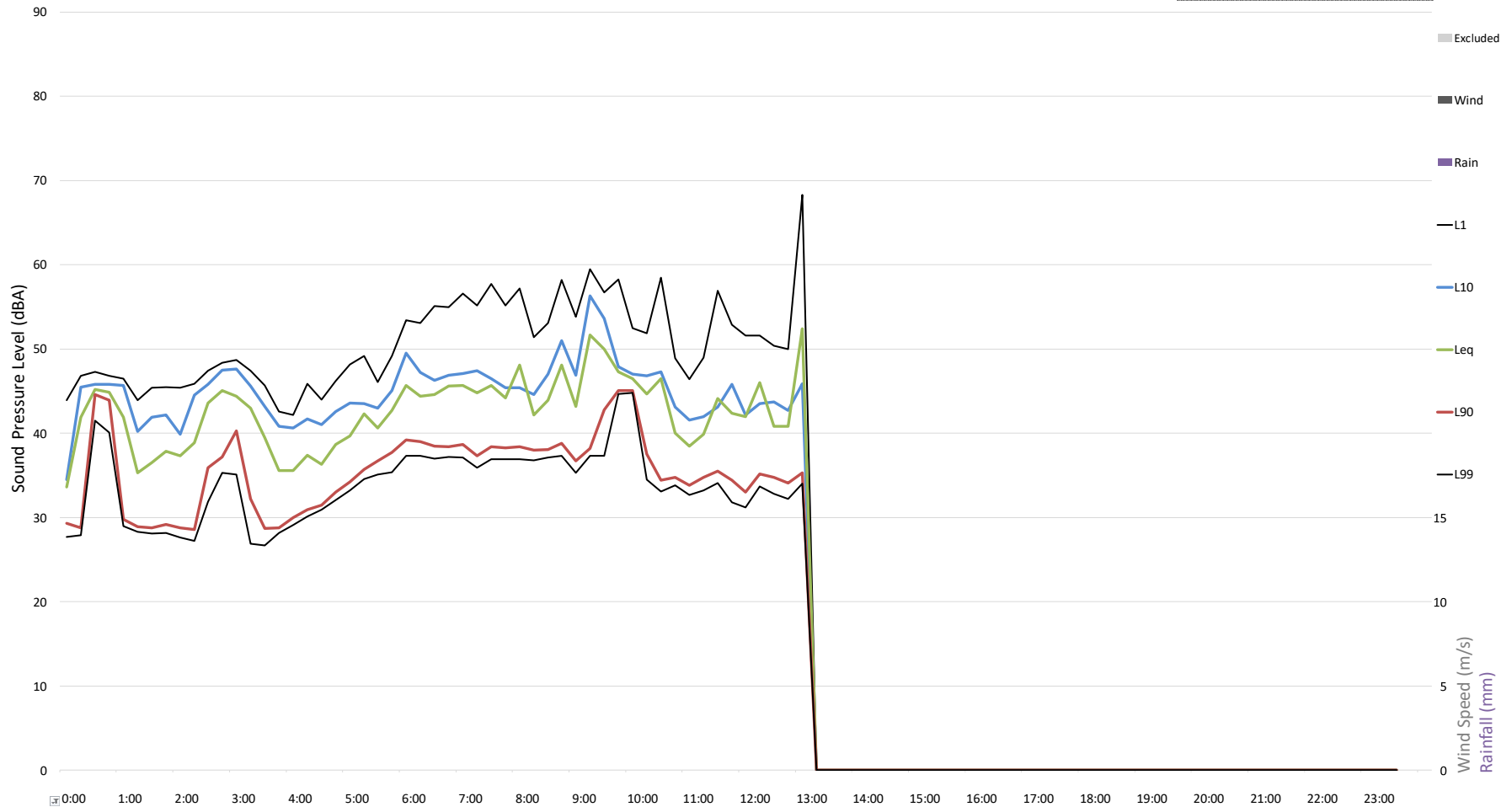
Project Address: 154 - 162 Stafford Street, Penrith

Logger Location: By the boundary of residential receiver at 68 Doonmore Street

BOM weather data: Penrith IDN60901

21-02-19 Thursday  
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	46.3	46.3				
L <sub>A90</sub> dB	34.2	34.2				





### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

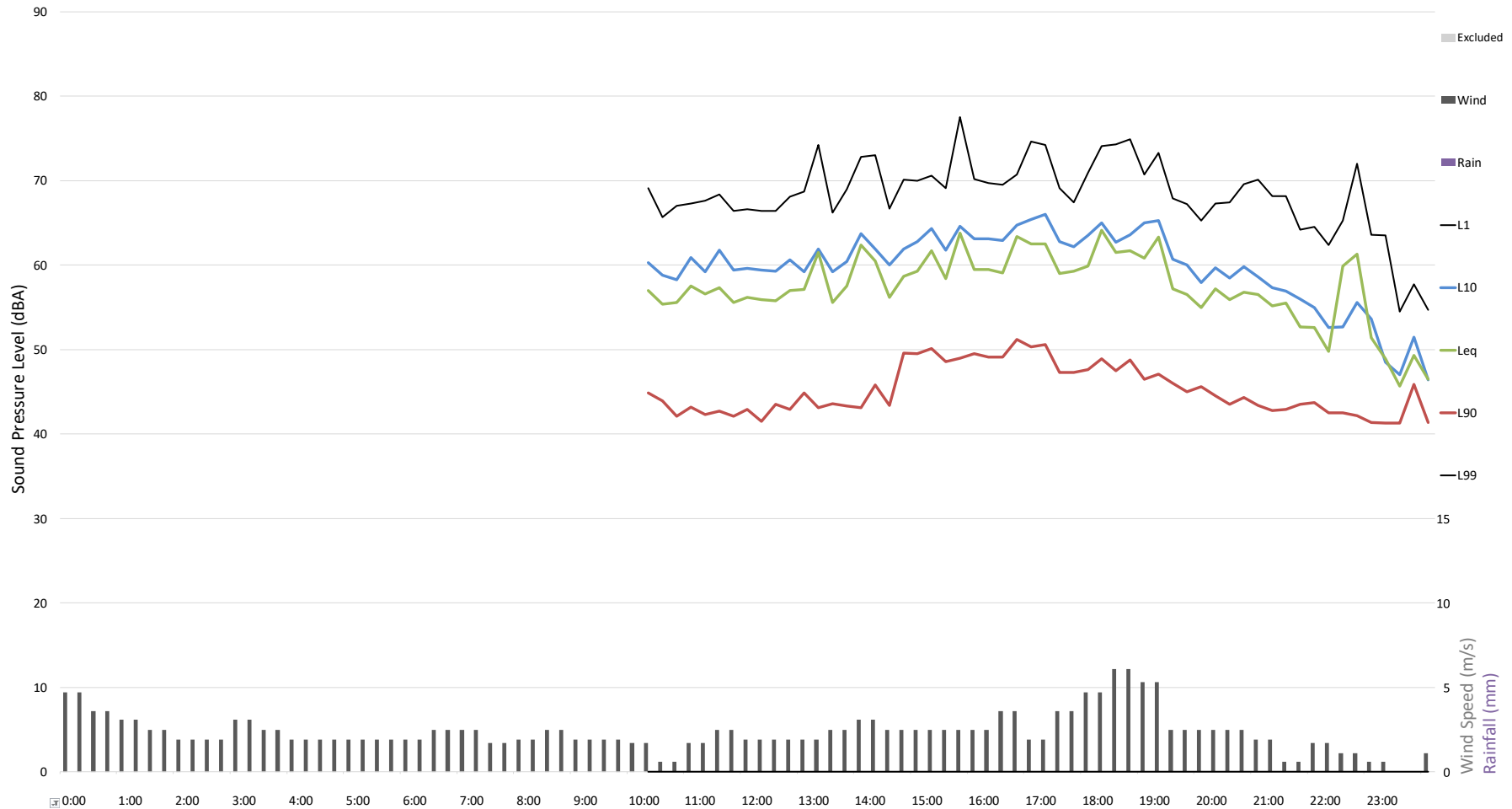
Logger Location: Facing Doonmore Street at approximately 5m away from the road

BOM weather data: Penrith IDN60901



14-02-19 Thursday  
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB			59.4	59.4	55.0	55.0
L <sub>A90</sub> dB			43.2	43.2	35.6	35.6



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

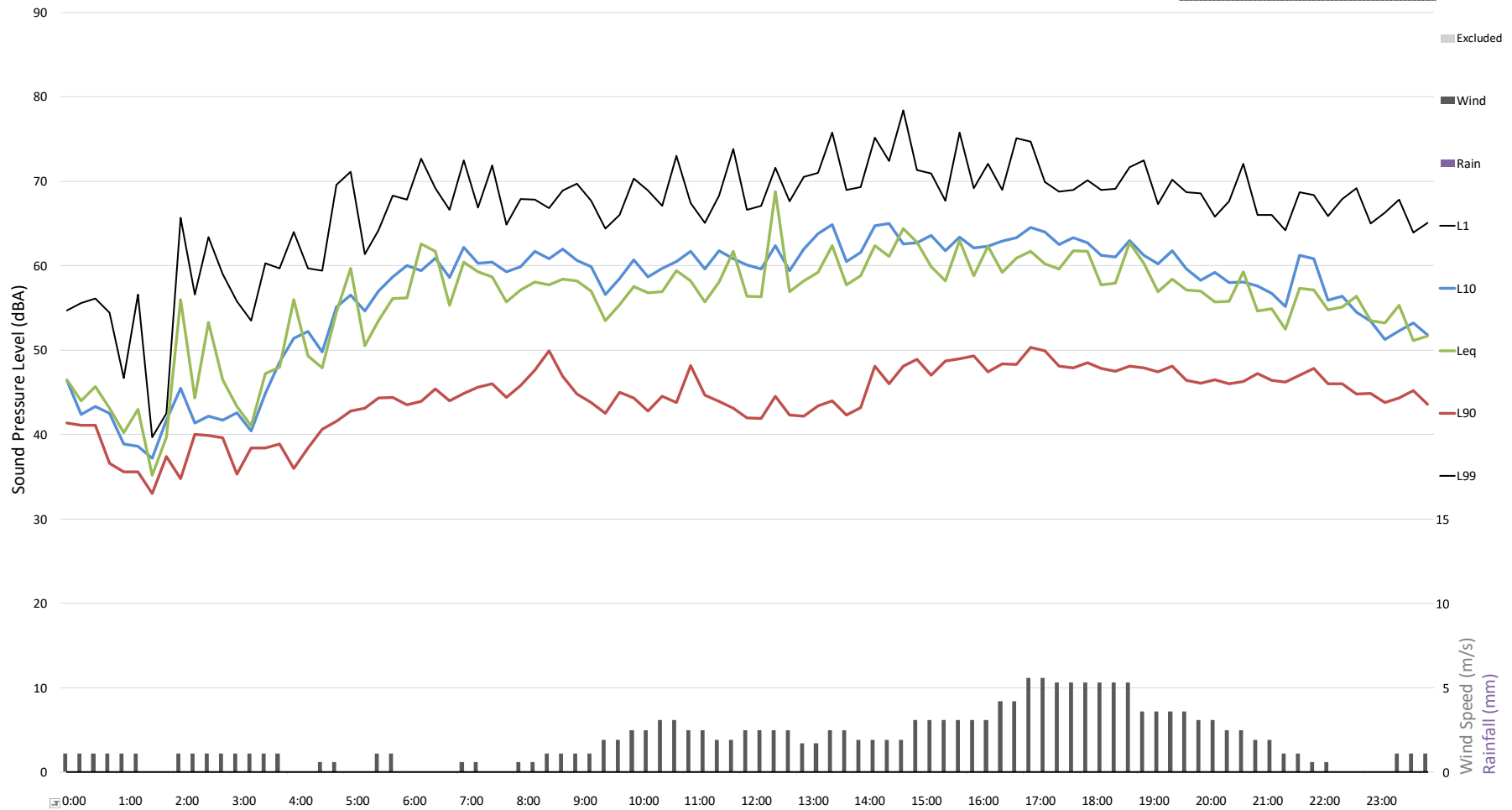
Logger Location: Facing Doonmore Street at approximately 5m away from the road

BOM weather data: Penrith IDN60901



15-02-19 Friday  
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	60.3	60.3	58.3	58.3	53.8	53.8
L <sub>A90</sub> dB	42.4	42.4	46.2	46.2	38.1	38.1



### 11470 Fresh Hope Care

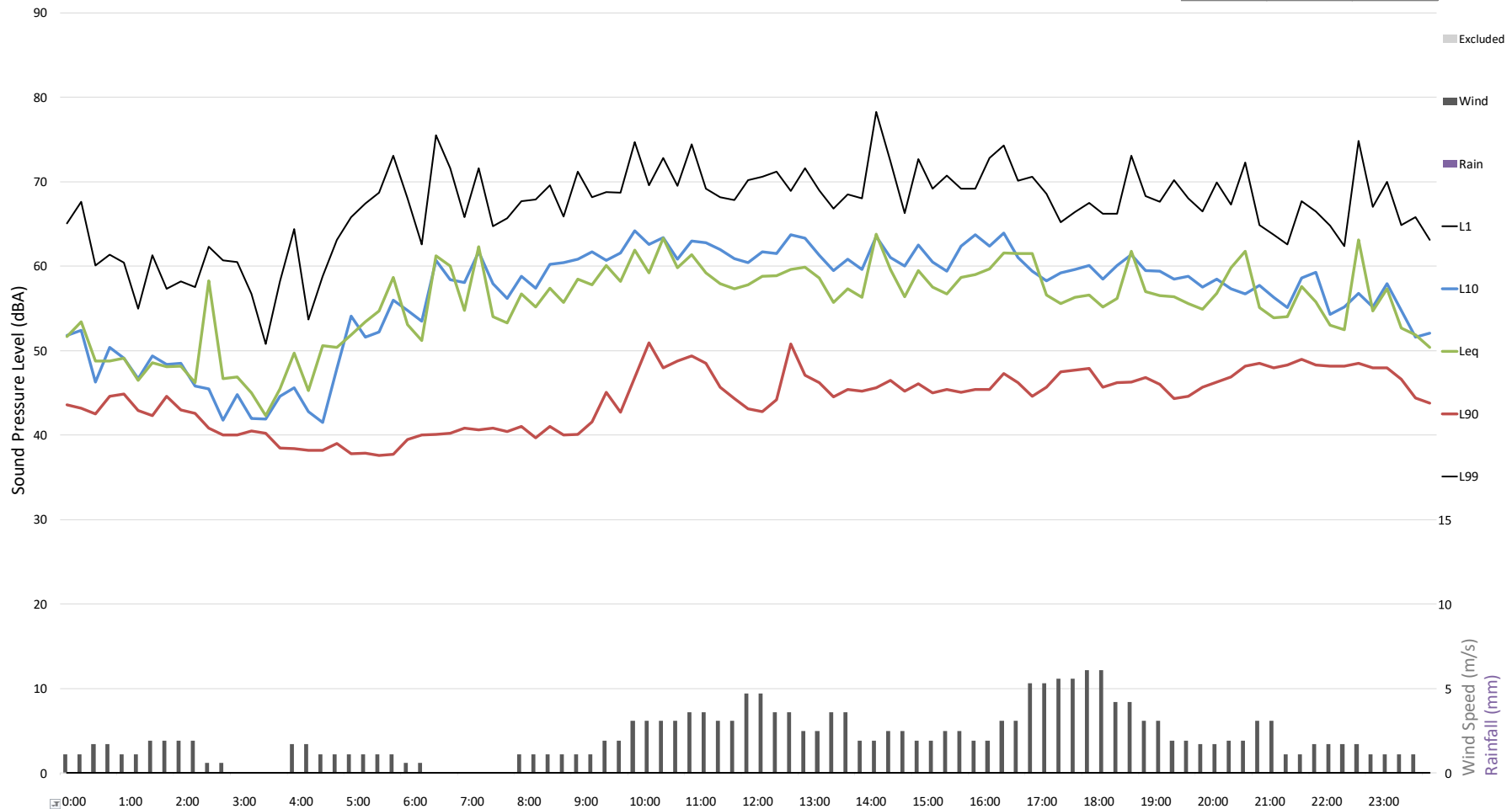
Project Address: 154 - 162 Stafford Street, Penrith

Logger Location: Facing Doonmore Street at approximately 5m away from the road

BOM weather data: Penrith IDN60901

16-02-19 Saturday  
Existing Ambient Noise Levels (dBA)

	Daytime		Evening		Nighttime	
	07:00 - 18:00		18:00 - 22:00		22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	59.1	59.1	57.6	57.6	53.5	53.5
L <sub>A90</sub> dB	40.7	40.7	45.2	45.2	37.5	37.5



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

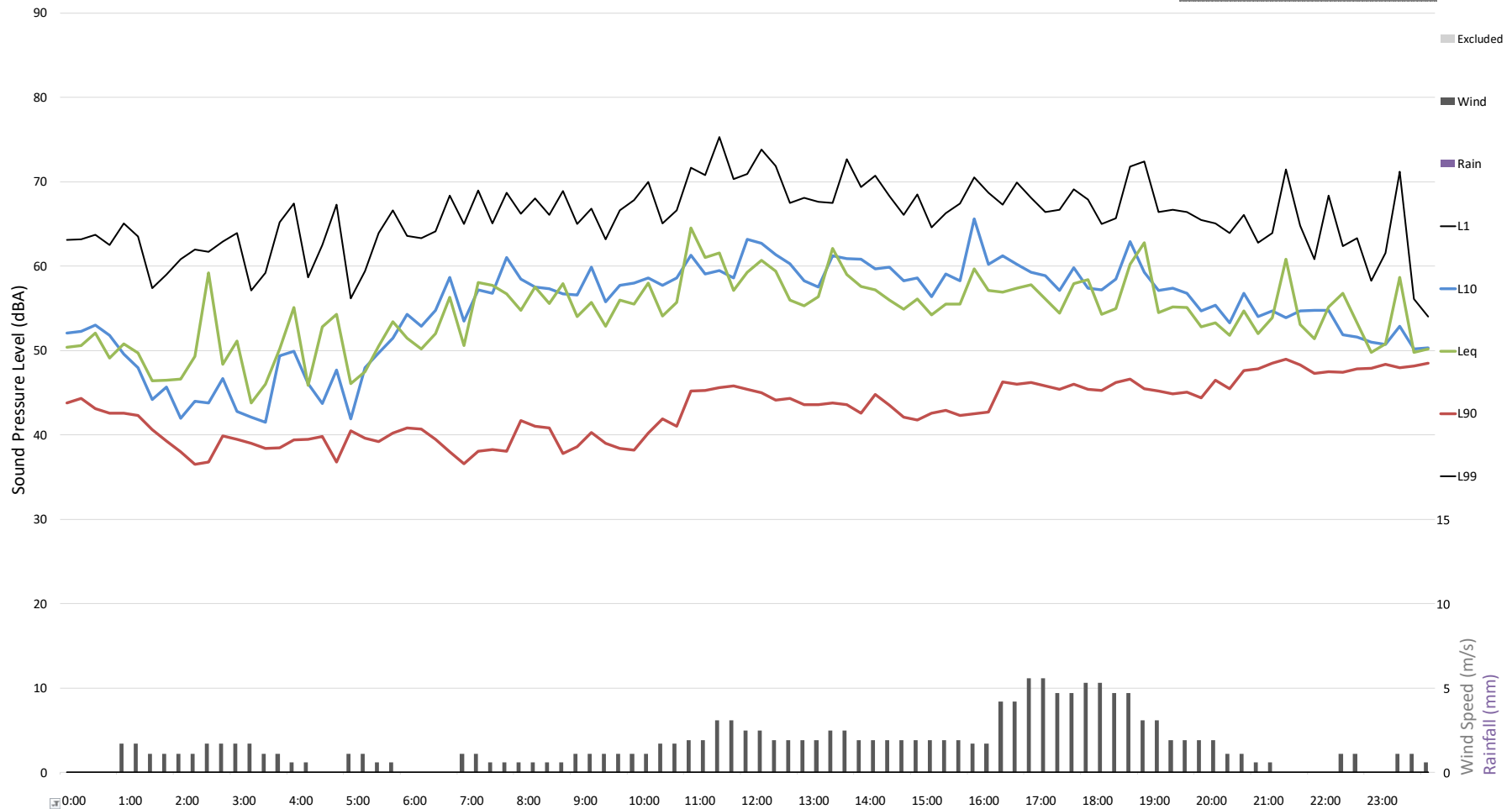
Logger Location: Facing Doonmore Street at approximately 5m away from the road

BOM weather data: Penrith IDN60901



17-02-19 Sunday  
Existing Ambient Noise Levels (dBA)

	Daytime 08:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 08:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	57.9	57.9	56.6	56.6	53.8	53.8
L <sub>A90</sub> dB	39.0	39.0	45.0	45.0	43.5	43.5





### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

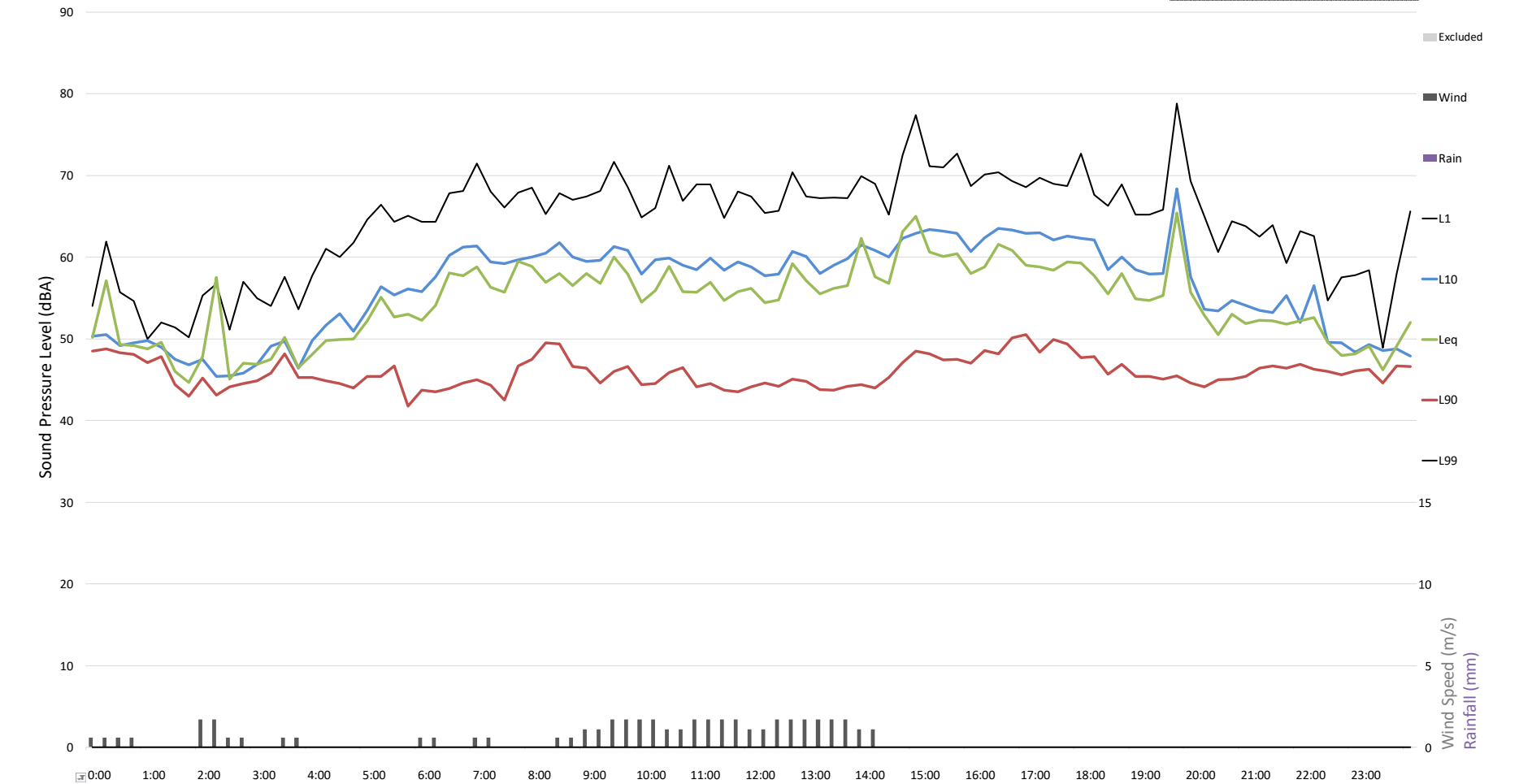
Logger Location: Facing Doonmore Street at approximately 5m away from the road

BOM weather data: Penrith IDN60901



18-02-19   
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	58.7	58.7	57.2	57.2	54.2	54.2
L <sub>A90</sub> dB	43.9	43.9	44.8	44.8	42.6	42.6



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

Logger Location: Facing Doonmore Street at approximately 5m away from the road

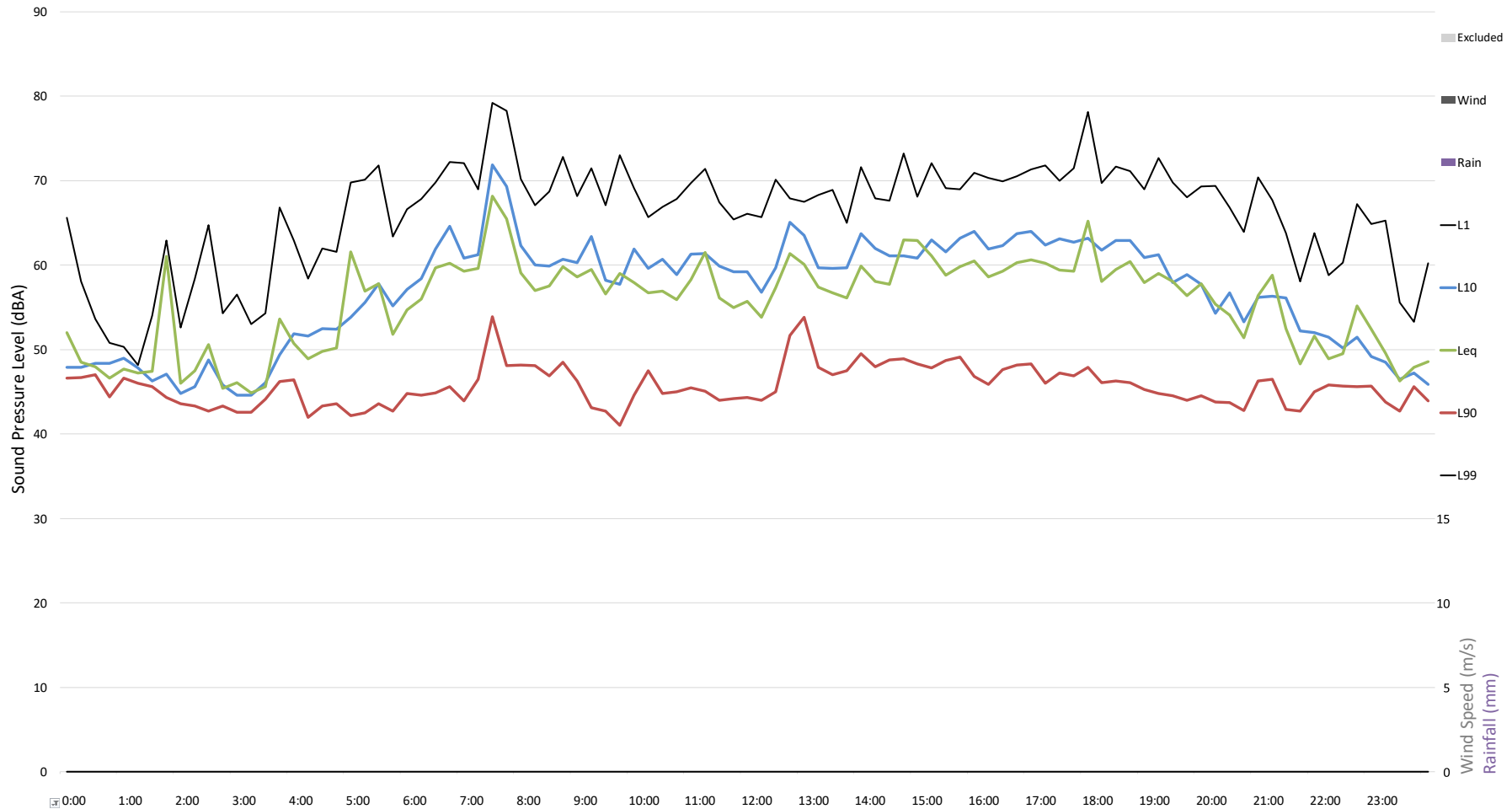
BOM weather data: Penrith IDN60901



19-02-19 Tuesday

Existing Ambient Noise Levels (dBA)

	Daytime		Evening		Nighttime		
	07:00 - 18:00	18:00 - 22:00	22:00 - 07:00	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	60.0	60.0	58.5	58.5	53.1	53.1	
L <sub>A90</sub> dB	44.0	44.0	42.9	42.9	42.2	42.2	



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

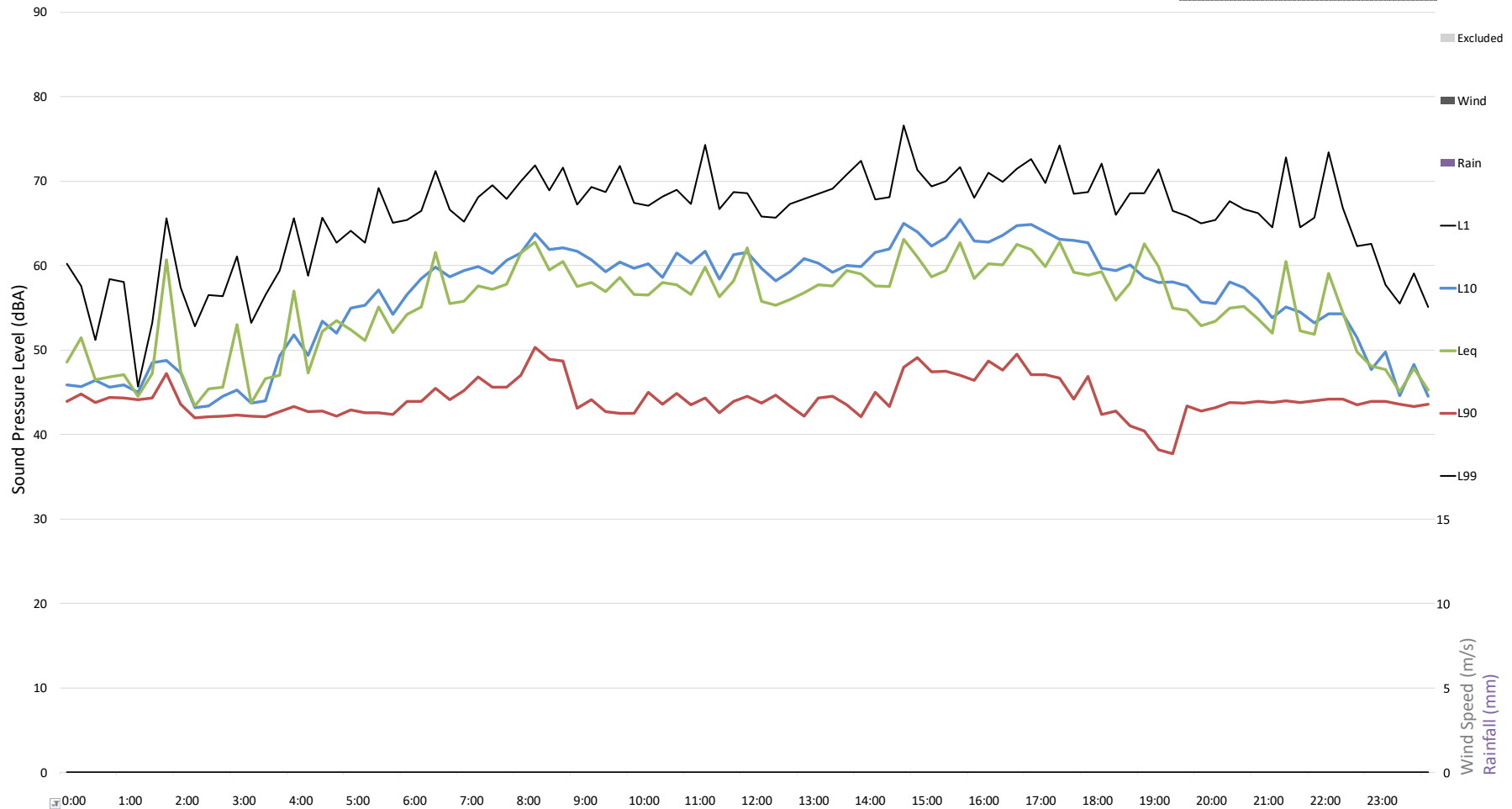
Logger Location: Facing Doonmore Street at approximately 5m away from the road

BOM weather data: Penrith IDN60901



20-02-19 Wednesday  
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	59.4	59.4	57.4	57.4	52.7	52.7
L <sub>A90</sub> dB	42.6	42.6	39.3	39.3	41.8	41.8



### 11470 Fresh Hope Care

Project Address: 154 - 162 Stafford Street, Penrith

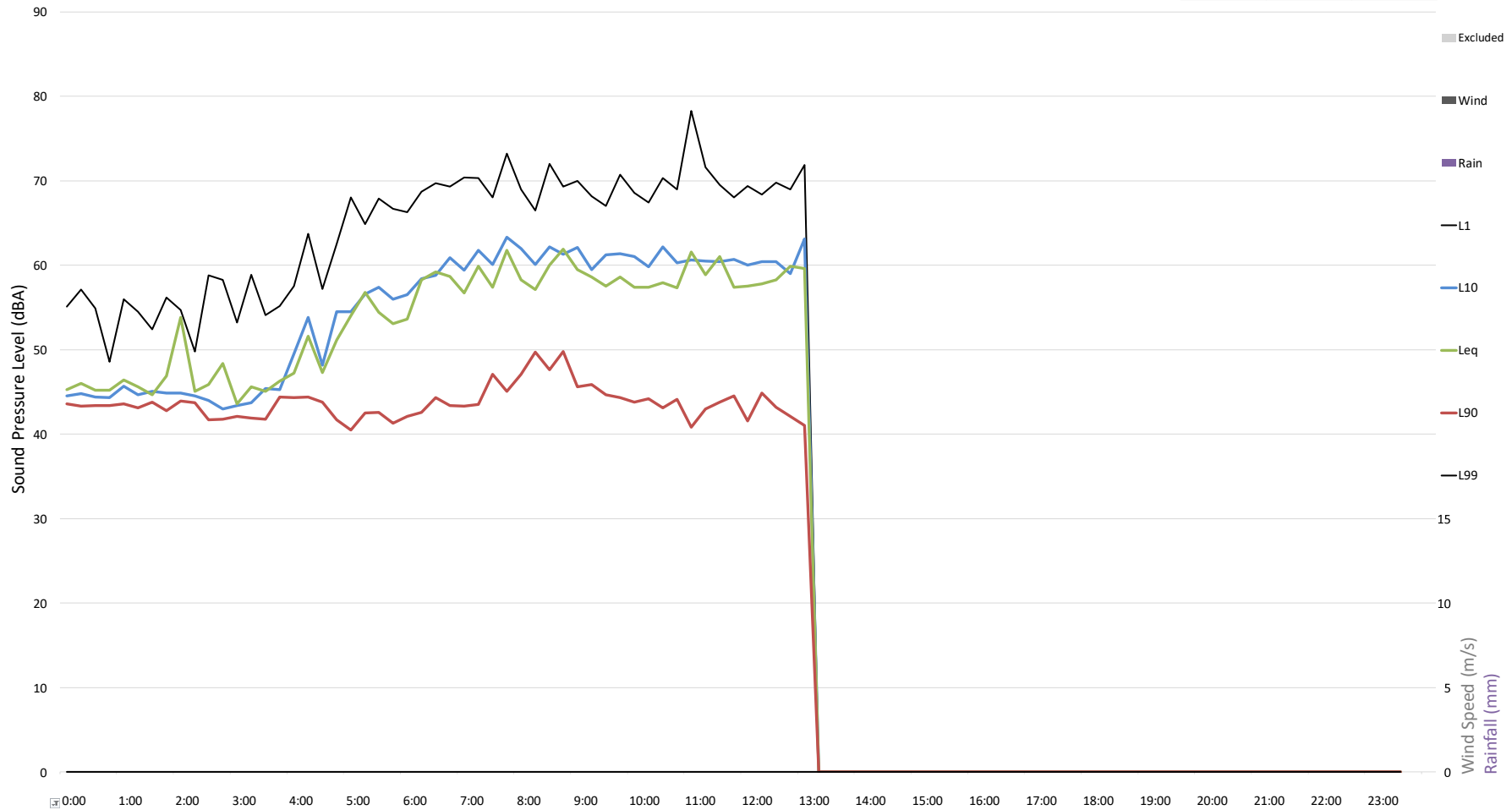
Logger Location: Facing Doonmore Street at approximately 5m away from the road

BOM weather data: Penrith IDN60901

21-02-19 Thursday

Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L <sub>Aeq</sub> dB	59.1	59.1				
L <sub>A90</sub> dB	41.8	41.8				





PO Box 345, Lane Cove 1595

+612 9460 6824 — [admin@pka.com.au](mailto:admin@pka.com.au)