

23 May 2022

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DCF 28 Albert Road South Melbourne Pty Ltd  
C/- Sinclair Brook  
164 Flinders Lane  
Melbourne VIC 3000

City of Port Phillip  
Advertised Document  
No. of Pages: 18

**Attention: Adam Smith**

Dear Adam,

## 28-32 Albert Road, South Melbourne S87a Amendment Application - Acoustic Review

### 1 Introduction

SLR Consulting Australia Pty Ltd (SLR) have been retained by DCF 28 Albert Road South Melbourne Pty Ltd (DCF) to undertake an acoustic review of the proposed amendment for the development at 28-32 Albert Road, South Melbourne.

Planning Permit 1051/2017 was issued 11 February 2019 by order of VCAT decision.

This report provides a review of potential noise and acoustic implications associated with the proposed amendment.

#### 1.1 Permit 1051/2017 Conditions

Permit conditions 30 and 35 of the existing permit pertain to acoustics and are as follows:

##### *30. Noise Attenuation for Apartments*

*Before the use commences, the applicant/owner must ensure that internal noise levels of the sleeping areas of the proposed dwellings must not exceed 35dB(A) with the windows closed; and for all other habitable rooms, levels must not exceed 40dB(A) with windows closed in accordance with relevant Australian Standards for acoustic control (including AS2107-1987 and AS3761 - Road Traffic) to the satisfaction of the Responsible Authority.*

*A report prepared by a suitably qualified professional demonstrating compliance with the requirements of this condition must be submitted prior to the commencement of the use.*

### 35. SEPP N-1

*All air conditioning and refrigeration plant must be screened and baffled and/or insulated to minimise noise and vibration to ensure compliance with noise limits determined in accordance with State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 to the satisfaction of the Responsible Authority.*

Condition 30 is related to general environmental noise intrusion into apartments (and in particular traffic noise), and provides the prescriptive internal noise targets. This condition is typical of current practice in planning permits and aligns generally with Clause 58.04 Standard D16 of the planning scheme.

Condition 35 is a typical requirement to ensure all plant and equipment associated with the development will comply with the mandatory SEPP N-1 noise limits.

Note that SEPP N-1 has been replaced with the new *Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues*, Publication 1826.4 (the Noise Protocol) as part of the implementation of the new Victorian Environment Protection Act 2017 (July 2021). The Noise Protocol is in most instances identical to the SEPP N-1 requirements. As such, there are no notable implications in relation to this application, however, the permit should preferably be updated to reflect the change in legislation.

## 2 Proposed Changes

We have been provided with the original Decision Plans Rev B (Elenberg Fraser drawings dated 31 January 2019) and the proposed amended development plans (Elenberg Fraser drawings dated 7 April 2022, Rev F).

The notable changes from a noise perspective are as follows:

- A restaurant is provided at ground level (previously a wellness centre), of approximately 269 m<sup>2</sup> floor area, and associated kitchen and back of house areas.
- Level 1 includes a central business centre work space, bar and outdoor terrace / seating along the east (Albert Road) and a gym and lap pool along the west. Skylights are provided in a number of areas on Level 1. It is assumed these will be glass construction (minimum 8 mm thick).

Some changes are also shown in apartment / hotel room layouts, and in basement arrangements, but these do not have any significant acoustic implications.

Anticipated operational details are as follows:

- Ground floor restaurant and Level 1 bar and business centre will serve breakfast through to dinner with potential operating times from 7 am to 12 pm. The ground level kitchen may also be used 24 hours a day for room service.
- The gym and pool are likely to operate from 6 am to 10 pm.

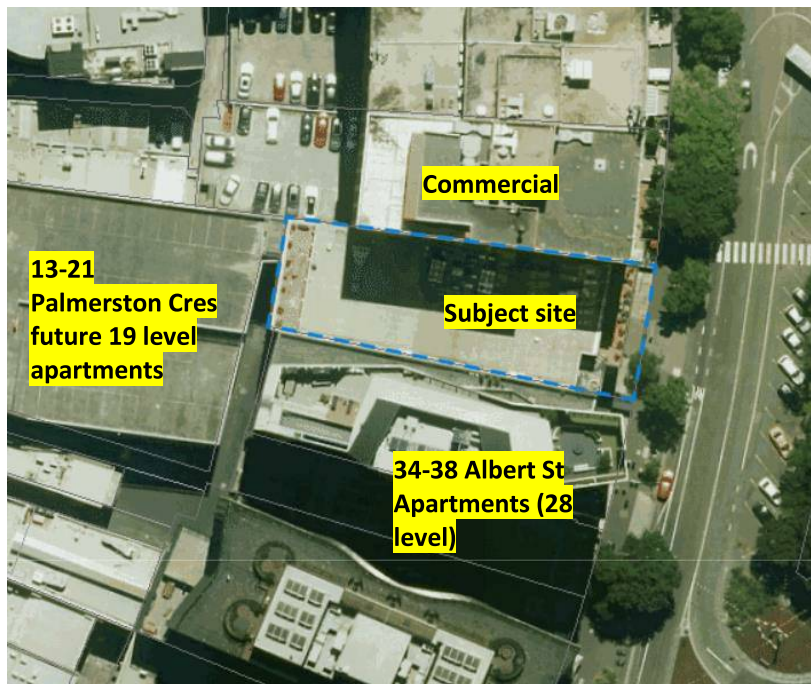
## 3 Affected Sensitive Receivers

Potentially affected sensitive receivers near the development include:

- Apartments and hotel rooms within the proposed development.

- Adjacent multi level apartment development at 34-38 Albert Road directly to the south of the subject development. The first 6 floors of this development do not include dwellings (i.e. ground level foyer and 5 levels of carpark above). Level 7 and above have apartments facing the proposed development.
- Proposed 19 level residential development at 13-21 Palmerston Crescent to the west of the subject site.
- To the direct north the buildings are commercial / office type uses, which are unlikely to be impacted by the development in relation to noise.
- Other apartments in the area are significantly further away from the subject development than those identified above, so achieving an acceptable acoustic amenity outcome at those dwellings and at the development itself will ensure appropriate amenity outcomes at other apartments in the area.

**Figure 1 Subject site and surrounds (Source: Nearmaps)**



## 4 Site Noise Measurements

SLR undertook site background and ambient noise testing on the level 5 balcony of the existing building on the subject site from Thursday 19 to Tuesday 24 March 2020.

The logger was located at the front edge of the balcony, with microphone set above the balustrade so as to have full exposure to the environmental and background noise in the area from traffic and other sources.

**Appendix A** presents the results of all noise logging and the data has been used where relevant in the assessment sections below.

It should be noted that local conditions in the area are affected by long term construction noise from the Melbourne Metro Tunnel project, which is scheduled to be completed in 2025.

In addition, the coronavirus (COVID-19) pandemic has resulted in extended periods of abnormal traffic flows in Melbourne.

We have endeavoured to use the data as practically as possible. Due to the long term nature of the above disruptive aspects, it is simply not possible to obtain representative alternative locations. It is also not practical to put projects on hold for a number of years.

## 5 Potential Impacts and Preliminary Assessment

### 5.1 Traffic Noise

#### 5.1.1 Noise Logging Results

The noise logging data attached provides an indication of the traffic noise impact to the exposed (eastern) façade of the development.

Permit Condition 30 calls for control of noise to levels of 35 dBA to bedrooms, and 40 dBA to other habitable rooms, with windows closed. The permit condition does not specify the measurement interval relative to these noise levels, but in order to align with the requirements of Clause 58.04 Standard D16 of the planning scheme the appropriate measurement intervals would be:

- 40 dBA (16 hour – from 6 am to 10 pm)
- 35 dBA (8 hour – from 10 pm to 6 am)

The measured 16 h and 8 h external noise levels are shown in the attached noise logging charts, with the following highest recorded daily noise levels:

- 63 dBA, Leq 16 h
- 57 dBA, Leq 8 h

#### 5.1.2 Predicted Traffic Noise Levels

There is some risk that the above measured traffic noise levels are atypical due to reduced traffic on roads associated with the Melbourne Metro Tunnel and COVID-19. Construction activity was generally audible throughout the majority of the logging data.

In order to provide for a further point of reference for the assessment we have undertaken a theoretical calculation of noise levels to the building façade from traffic on nearby roads. The calculation was undertaken using the *Calculation of Road Traffic Noise* (CoRTN) algorithms developed by the Department of Transport (UK – Welsh Office, 1988). This is the most widely accepted traffic noise prediction approach in Australia. The algorithm allows for calculation of the 18 hour 'L10' noise level from 6 am to midnight, based on:

- Distance between the road and receptor point,
- Daily traffic flow and mix of heavy vehicles,
- Speed of traffic,
- Angle of view from receiver to road.

Based on available VicRoads traffic flow data from 2016 (spanning the previous 4 years), we have sourced the following details for the two main roads in the area.



- Kingsway between Albert Rd and Park St: 48,000 vehicles per day in each direction, with 4% heavy vehicle mix.
- St Kilda Road near Domain Road: 16,000 vehicles per day in each direction, 3% heavy vehicles mix

Using the CoRTN algorithms and site physical geometry (distance to roads from receiver etc.) we have estimated the following noise levels from each road. These have also been adjusted to Leq noise levels for the 16 h and 8 h period.

- Noise contribution from Kingsway: 62 dBA Leq 16 h, 56 dBA 8 h
- Noise contribution from St Kilda Road: 64 dB Leq 16 h, 58 dBA 8 h
- **Total cumulative traffic noise levels: 66 dBA Leq 16 h, 60 dBA 8h**

The above theoretical predictions provide higher noise levels than those measured via the noise logging and have been used for the indicative façade calculations below.

### 5.1.3 Façade Glazing Design

Based on the results above, we have calculated the resultant noise levels within the potentially most impacted living and bedroom spaces along the east façade of the building. The calculations accounted for:

- The total area of exposed glazing
- The room type and volume
- Anticipated finishes within the room
- The external spectrum measured on site (between 8 am and 9 am Friday 20 March 2020, from the noise logger). Other indicative noise spectra were also considered given that the sample included some construction noise sources.

Calculations indicate that in order to achieve the permit condition 30 requirements of 35 dBA in bedrooms and 40 dBA in living rooms, moderate performance glazing would be required. Our findings indicate the following would be acceptable:

- IGU / DGU type sealed thermal glazed units comprising 6 mm glass, 12 mm air cavity, 10.38 mm laminated glass. The glazing system should achieve an  $R_w + C_{tr}$  not less than 33 dB.
- Single 12.76 mm laminated glass, with a system acoustic rating of  $R_w + C_{tr}$  not less than 33 dB.

Note that the above should be taken as preliminary and could potentially be reduced in performance (i.e. to thinner glass) once updated traffic noise measurements are undertaken on the site during normal traffic flow, and once final glazing areas are evaluated. However, the above indicates that a compliant design is achievable with readily available glazing systems.

## 5.2 Music Noise

The proposed restaurants may have associated music noise emissions. These will need to comply to the requirements of Part II of the Noise Protocol (previously SEPP N-2). Compliance with the Noise Protocol / SEPP N-2 will also form typical Liquor Licencing requirements for the uses.

Our understanding is that the uses will generally have low level background music (i.e. to provide for some ambience) and are not intended to include louder type amplified or live music operations. Given that both uses are indoor uses, and only background music is proposed (which is often defined as 65 dBA generally throughout the space to allow for normal conversation between occupants), there will be a low risk of noise impact to sensitive receivers within and near the site.

Further to the above, as the restaurant / bar uses are on ground floor and Level 1, there is a substantial distance buffer to the nearest apartments which are on Level 7 of the adjacent development, and significant shielding also offered by the edge of the subject building (i.e. there is no actual line of sight between the restaurant windows / outdoor areas and any apartments).

To provide for an indicative assessment, we have undertaken the following calculations. This assumes open access doors to the outdoor terrace area (east side of building):

Sound Pressure level in restaurant	65 dBA (Background music type level)
Area of 2 x open access doors, say 4m <sup>2</sup> total	+ 6 dB
Distance correction (L1 to L7), say around 18 m	-36 dB
Shielding from edge of building	-10 dB
Final noise level to apartment façade:	25 dBA

The above suggests that levels would be 25 dBA outside the nearest apartment with 2 x east facing balcony doors open on the Level 1 of the restaurant. This is well below the lowest measured background levels in the attached noise logging (which were as low as 49 dBA, L90 during the quietest time of night). Note this is not a formal Noise Protocol assessment but it provides an indication of the low level of risk involved.

Based on the above, we do not see any particular need for any further noise controls or specific management.

It would be appropriate to include a standard permit condition (similar to condition 35) requiring that the use complies with the Noise Protocol Part II. Liquor licencing would normally address this so may not be deemed necessary.

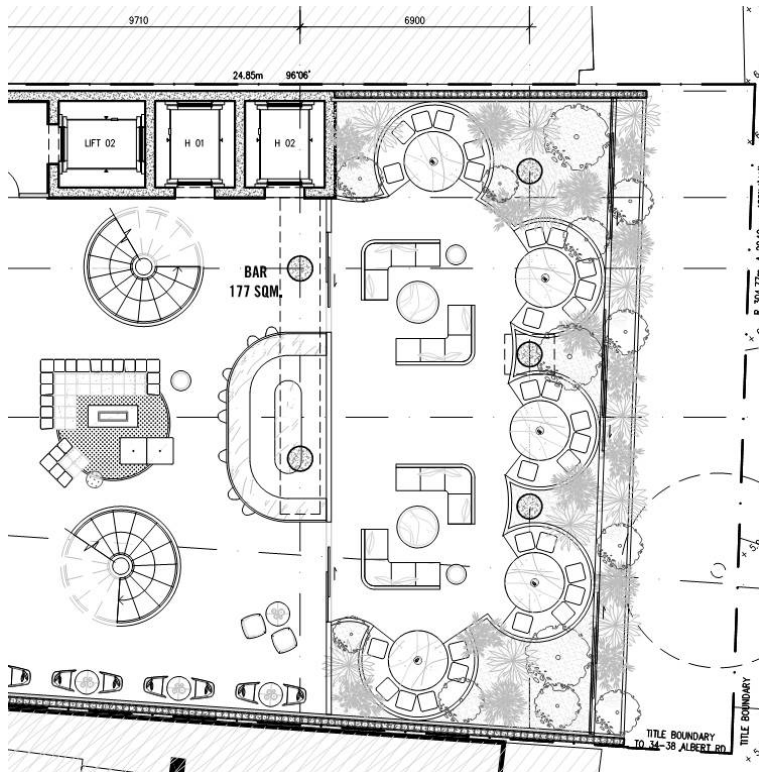
*All music emissions from the development must comply with noise limits determined in accordance with Part II of the Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues, Publication 1826 (the Noise Protocol) to the satisfaction of the Responsible Authority.*

It is further noted that the east side terrace area is fully enclosable via external sliding doors (like a winter garden arrangement). As such, there is even more control over any potential music noise emissions should it be required. The use can have higher internal music levels and readily comply with the Noise Protocol.

### 5.3 Outdoor Patron Noise Impacts

The Level 1 restaurant includes an external balcony area (approx. 150 m<sup>2</sup>) along the east (Albert Road) interface. The areas are accessed by sliding glass doors. The area is also fully enclosable with perimeter glass screens (wintergarden arrangement).

**Figure 2 Balcony areas to east (Source: Elenberg Fraser drawings)**



Patron noise impacts have been considered in applications for beer gardens and other similar type uses where there is potential for large numbers of people congregating outside during the night. The subject use does not represent the same likely risk, however, some consideration of noise from this area is provided below.

Patron noise is not assessable under any legislated noise policies or guidelines, but acoustical consultants have considered assessing these to either:

- Noise Protocol Part I (previously SEPP N-1 based targets). i.e. applying the normal commercial noise limits which would not strictly apply, or
- A 'background + 5 dBA' based assessment during the night (or background + 10 dB during the evening and day). This level of patron noise above 'minimum background' levels is considered a reasonable amenity impact.
- Sleep disturbance targets for single loud noise events (i.e. someone speaking with a particularly loud voice for a short period, or yelling / loud laughter). This is normally assessed to single event Lmax targets.

For preliminary screening purposes, we have considered assessment to 'minimum background + 5 dBA' and Lmax sleep disturbance based targets for the use. The table below provides our preliminary assessment and calculations based on 60-70 patrons located on the terrace area (this appears reasonable given the layout and seating etc.). The reference noise levels used are based on previously measured noise levels by SLR in similar arrangements in beer gardens / restaurants.

Typical sound level in space	82 dBA
Sound Power Level at opening of, say 70% open area of façade (fixed window sections would make up at least 30%), $10 \log(35)$	+15 dBA
Distance correction (L1 to L7), approx. 18 m:	-36 dB
Shielding from edge of building:	-10 dB
Final noise level to apartment façade:	51 dBA
Minimum background level + 5 dBA (night, based on 49 dBA L90 lowest hourly background level):	54 dBA

In terms of single event Lmax assessment, assuming a maximum sound power level of 103 dBA for a single patron with a loud voice event, a maximum level of 57 dBA is predicted outside the nearest apartment. This is below typically adopted targets of 60 to 65 dBA.

The above suggests minimal risk of noise impact from the terrace use and there does not appear to be any further need for noise control or management of patrons outdoors. It is further noted that the terrace is fully enclosable and as such, further noise control is available should it be found necessary.

#### 5.4 Mechanical Plant and Equipment

The hotel, restaurant, bar, gym and pool uses will all have associated plant and equipment for air conditioning, refrigeration and ventilation.

These sources will need to comply with the Noise Protocol Part I (previously SEPP N-1) at the nearest sensitive receptors, and permit condition 35 covers this issue.

The specific plant and equipment selections and their locations are not normally available during the planning stage of any development. Designing for compliance with the Noise Protocol will need to be part of the detailed design works for the development.

In order to provide for some additional guidance, we provide the following:

- Plant equipment is shown on the roof of the building which includes mechanical / AC equipment and hot water plant. Hot water plant is normally not particularly noisy, but mechanical ventilation and AC equipment can be a noise source.
- The plant area is indicated to be screened which would provide a benefit to the nearest apartments, but there would still be overlooking apartments.
- The night period noise limit under the Noise Protocol would be in the order of 53-54 dBA during the critical night period based on the noise logging results. However, to ensure an appropriately conservative approach during the design it is recommended that a night period design level of 47 dBA be adopted at the nearest apartment receiver.
- To achieve the necessary noise limit based on the indicated location of the plant, the total sound power level (from all sources in the hot water and mechanical / AC equipment) will need to not exceed 80 dBA. Appropriate implementation of screening, quiet equipment selection, and noise control treatments (such as attenuators, baffles etc.) should enable a fully compliant outcome.

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## 5.5 Gymnasium

The gym can potentially impact the hotel / apartment rooms directly above but does not represent interface issues with existing adjacent uses.

It is noted that the gymnasium is not a large commercial type gym which would normally represent higher risk when under apartment / hotel rooms. The building management would likely be able to manage this use via appropriate time restrictions.

Provision of isolation to the gymnasium floor (e.g. thick rubber flooring), and appropriate structural isolation of gymnasium equipment (i.e. no structural connections to walls and floor slab above) are common approaches to controlling gymnasium noise and would likely be sufficient in this instance for this development.

This is ultimately a quality issues for the developer to consider.

## 5.6 Pool

A pool and associated deck are shown along the west on Level 1.

This is a fully enclosed space and as such there is minimal risk of any noise from this area affecting existing residential uses in the area.

The developer may need to consider noise from the pool and decking to the hotel rooms above, but this is an internal quality issue and can be addressed with appropriate ceiling / slab constructions and structural isolation if necessary. The risk of impacts to these spaces is also limited if the pool is not used through the night.

## 6 Conclusion

SLR has undertaken a review of the proposed amendments to the design for the development at 28-32 Albert Road, South Melbourne.

Traffic noise impacts to the site were considered and our preliminary noise logging and calculations indicate that the subject development can readily comply with the permit condition 30 requirements for traffic noise. Implementation of readily available moderate performance glazing would achieve a compliant outcome. The design of the glazing should be further reviewed in future with updated traffic noise measurements and specific calculation to the spaces based on finalised exposed glazing areas.

Noise impacts from music and patrons associated with the ground and 1<sup>st</sup> level restaurant, café and bar uses were considered and it has been determined that these are unlikely to provide adverse impact to nearby existing (or future) residents given the relative locations of these areas compared to the nearest apartments, the proposed uses, and the level of shielding available. The development will be required to comply with the Noise Protocol Part II in relation to music noise emissions and this could be reflected in an additional permit condition (or could revert to liquor licencing requirements).

Noise from mechanical plant and equipment will be required to comply with the Noise Protocol Part I (previously SEPP N-1) to all nearby and future residential uses, and the existing permit condition 35 reflects this requirement (although it could be updated to reflect the new noise legislation). The developer will be required to ensure that all such equipment is appropriately designed to achieve the noise limits. This should be readily achievable with appropriate siting, selection and acoustic treatments (eg. acoustic screens, fan attenuators, lined ductwork etc).

Noise from the gym and pool use would potentially only affect hotel occupants within the development and could be readily controlled via appropriate floor and equipment treatments, as well as via managerial controls if necessary, (i.e. no use during the night).

In conclusion, the proposed amendment is expected to be able to comply with the original permit requirements relating to traffic and mechanical plant and equipment noise related aspects. Similarly, music and patron noise from restaurant / bar uses are considered unlikely to cause any impacts.

Yours sincerely



JIM ANTONOPOULOS BAPPSC MAAS  
Principal - Acoustics

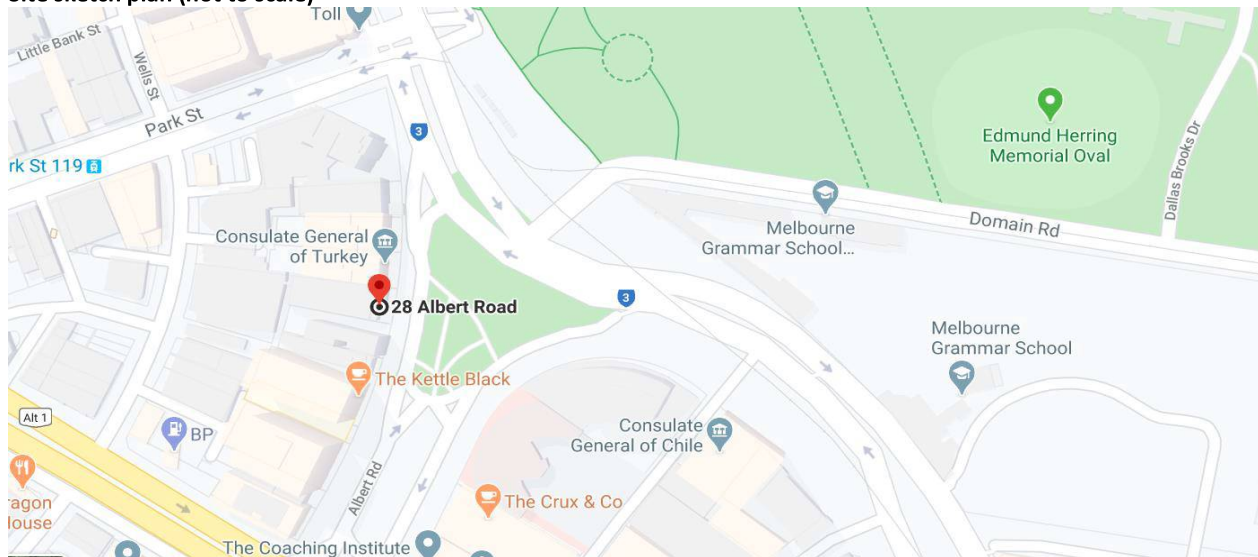
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**Noise Monitoring Location Summary Page**

**Site:** 28 Albert Rd South Melbourne  
**Measuring period:** 19 March to 24 March 2020  
**Microphone position:** Balcony Top Floor  
**Prevailing ambient noise environment:** Traffic on Albert road, wind, birds  
**Prevailing weather conditions:** Gentle southwesterly winds, Light rainfall on the 22<sup>nd</sup> and 23<sup>rd</sup> March

**Site sketch plan (not to scale)**





### Results of Noise Monitoring

Client: DCF Developing Entity 28 Albert Road South Melbourne Pty Ltd  
 Job Number: 640.12112 Location: 28 Albert Rd South Melbourne  
 Microphone position: Level 4, Balcony Initials: SK  
 Initial calibration: 94 dBA Final calibration: 94 dBA

Hour	Sound Pressure Level, dB(A)																	
	Thu, 19-03-2020			Fri, 20-03-2020			Sat, 21-03-2020			Sun, 22-03-2020			Mon, 23-03-2020			Tue, 24-03-2020		
	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>
00:00 to 01:00				58.9	52.4	58.3	57.8	52.8	55.9	58.4	53.2	57.7	56.4	52.7	55.1	56.8	53.2	56.0
01:00 to 02:00				57.0	52.2	57.8	56.9	52.8	55.2	57.4	53.3	56.5	62.5	53.1	59.9	56.1	52.9	55.0
02:00 to 03:00				55.7	49.9	53.9	56.5	52.4	55.1	57.2	52.2	60.5	55.6	49.9	53.8	54.8	49.7	53.0
03:00 to 04:00				54.4	48.7	52.5	55.6	49.8	54.5	54.1	49.0	52.7	54.8	49.6	52.7	54.2	49.8	52.4
04:00 to 05:00				57.2	49.9	55.5	55.6	49.6	53.6	54.6	48.9	53.2	56.0	50.0	54.6	58.6	53.4	56.3
05:00 to 06:00				59.3	51.7	56.9	56.8	50.0	54.5	54.6	49.1	52.8	59.4	52.6	57.3	60.1	52.8	57.7
06:00 to 07:00				62.2	55.8	60.4	59.8	53.0	57.9	57.0	51.7	55.1	62.3	56.5	60.7	62.8	57.7	61.2
07:00 to 08:00				66.2	60.9	66.1	66.8	57.0	63.7	57.6	52.9	55.8	66.8	60.2	64.4	65.9	60.6	64.4
08:00 to 09:00				66.9	63.1	65.5	67.1	61.6	64.9	60.5	55.3	59.6	64.3	61.1	63.2	67.3	63.5	66.1
09:00 to 10:00				66.5	62.1	64.7	66.5	61.3	64.6	61.5	58.4	60.6	64.3	60.9	63.0			
10:00 to 11:00				65.5	61.8	63.9	65.5	59.9	63.2	62.2	57.9	61.0	65.5	61.2	65.4			
11:00 to 12:00				66.4	62.1	64.8	65.4	60.8	63.7	61.7	58.0	60.3	63.7	60.3	62.6			
12:00 to 13:00				66.3	61.7	64.4	65.9	59.5	63.6	63.2	58.4	62.1	64.2	60.1	63.3			
13:00 to 14:00				64.6	61.2	63.3	62.2	57.8	61.0	62.3	57.9	61.3	62.9	59.4	62.1			
14:00 to 15:00	66.1	60.8	74.2	65.5	61.2	64.0	60.5	56.1	59.4	61.6	56.1	60.3	62.1	58.1	60.9			
15:00 to 16:00	67.0	61.8	65.0	64.3	61.0	63.1	61.0	55.3	59.6	60.2	56.2	58.4	62.5	58.3	61.1			
16:00 to 17:00	65.4	60.8	63.4	64.1	60.9	62.9	60.0	54.6	58.9	60.5	55.6	59.2	62.2	58.3	60.8			
17:00 to 18:00	63.3	59.5	62.5	64.0	59.6	62.3	60.6	55.0	59.0	60.9	55.8	59.4	62.7	58.5	62.6			
18:00 to 19:00	62.1	58.3	61.1	62.1	57.4	60.7	61.7	55.7	60.9	60.6	55.1	58.8	61.4	56.5	60.1			
19:00 to 20:00	61.7	56.7	60.8	61.6	56.6	59.8	60.3	54.1	58.4	60.3	54.3	58.8	60.4	54.3	59.4			
20:00 to 21:00	59.9	54.6	58.8	60.2	55.0	58.6	59.9	53.3	58.4	59.7	54.1	57.9	59.3	53.1	57.8			
21:00 to 22:00	60.1	54.3	58.5	59.7	53.6	58.5	59.2	52.6	57.4	59.2	53.0	57.4	58.2	52.3	56.7			
22:00 to 23:00	59.4	53.9	58.9	59.1	53.3	57.4	58.4	52.2	57.2	58.3	52.1	57.0	58.0	51.7	56.3			
23:00 to 24:00	59.2	53.1	57.8	59.2	54.0	57.1	58.8	53.6	58.5	58.0	53.0	56.5	57.9	53.0	57.3			
L <sub>10</sub> (18h) av. 6-24h				63.6			62.2			60.3			62.2					
L <sub>eq</sub> (18h) log av. 6-22h						63.2		61.7			59.5			62.0				
L <sub>eq</sub> (8h) log av. 22-6h			56.9			55.6		57.0			56.4			55.8				
L <sub>eq</sub> (18h) log av. 6-22h						63.2		61.7			59.5			62.0				
L <sub>eq</sub> (8h) log av. 22-6h			56.9			55.6		57.0			56.4			55.8				
L <sub>eq</sub> (24h) log av. 0-24h						61.9		60.4			58.7			60.8				
L <sub>90</sub> Day					61.4			60.0					59.7			62.1		
L <sub>90</sub> Evening		56.0			55.7			54.9			55.9			54.1				
L <sub>90</sub> Night		52.0			52.0			51.5			52.2			52.7				
Wind @0900h, km/h	13 km/h N			13 km/h NW			4 km/h S			9 km/h W			11 km/h SE			6 km/h NE		
Wind @1500h, km/h	15 km/h N			13 km/h WSW			9 km/h SW			17 km/h SSW			11 km/h S			17 km/h SSW		
Rainfall to 9am (mm)	0.0			0.0			0.0			0.4			0.4			0.0		

Hourly percentiles based on Lp at 0.1s intervals.



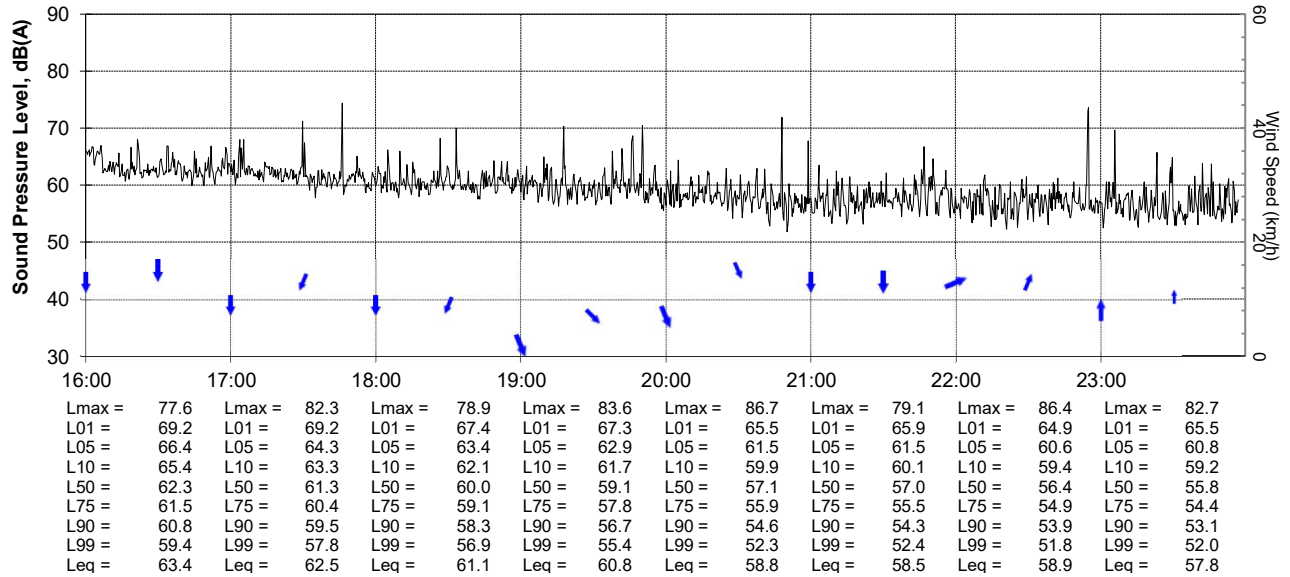
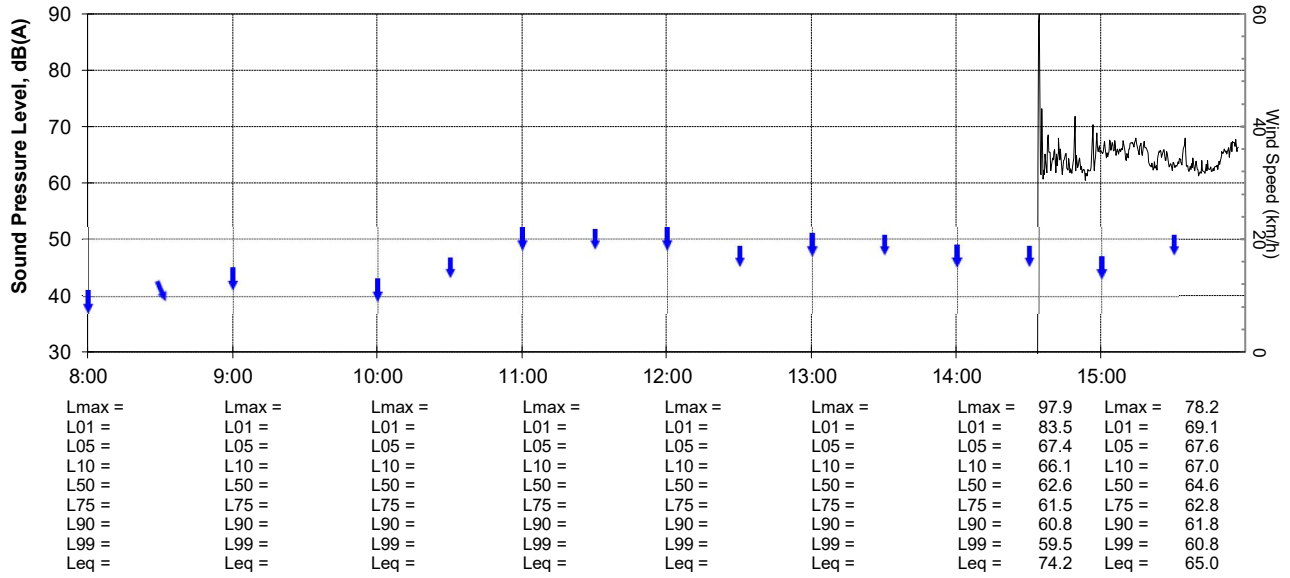
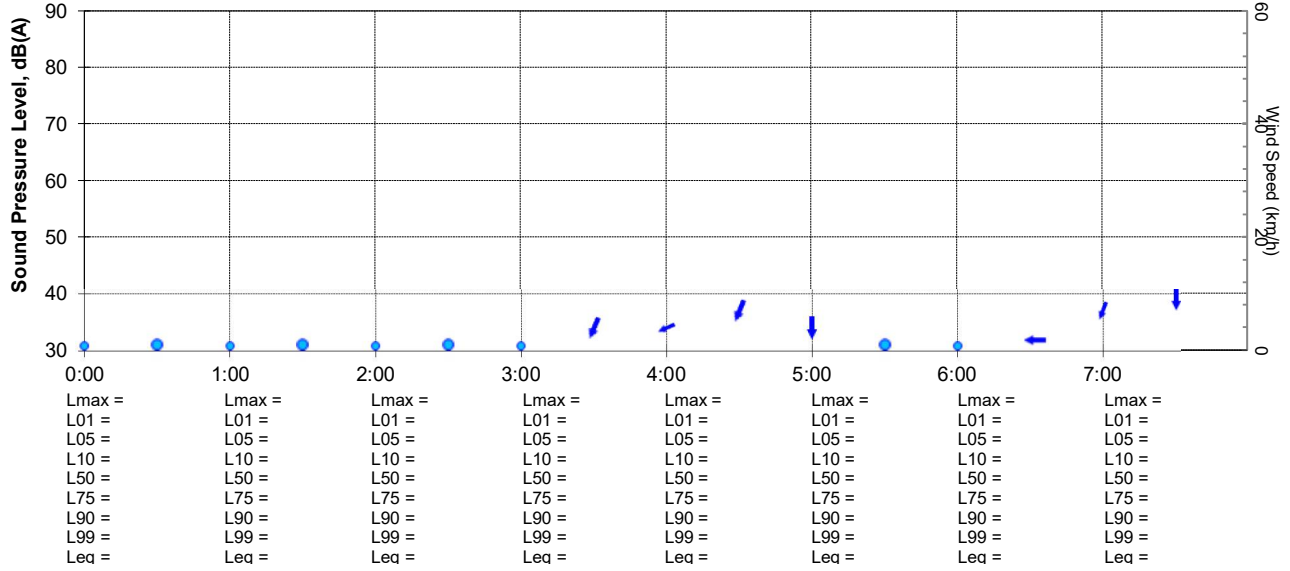
## Results of Noise Monitoring

Client: DCF

Location 28 Albert Rd South Melbourne

Date: Thursday  
19 Mar 2020

Microphone position: Level 4, Balcony



Graph based on Leq at 20s intervals,  
Hourly percentiles based on Lp at 0.1s intervals.



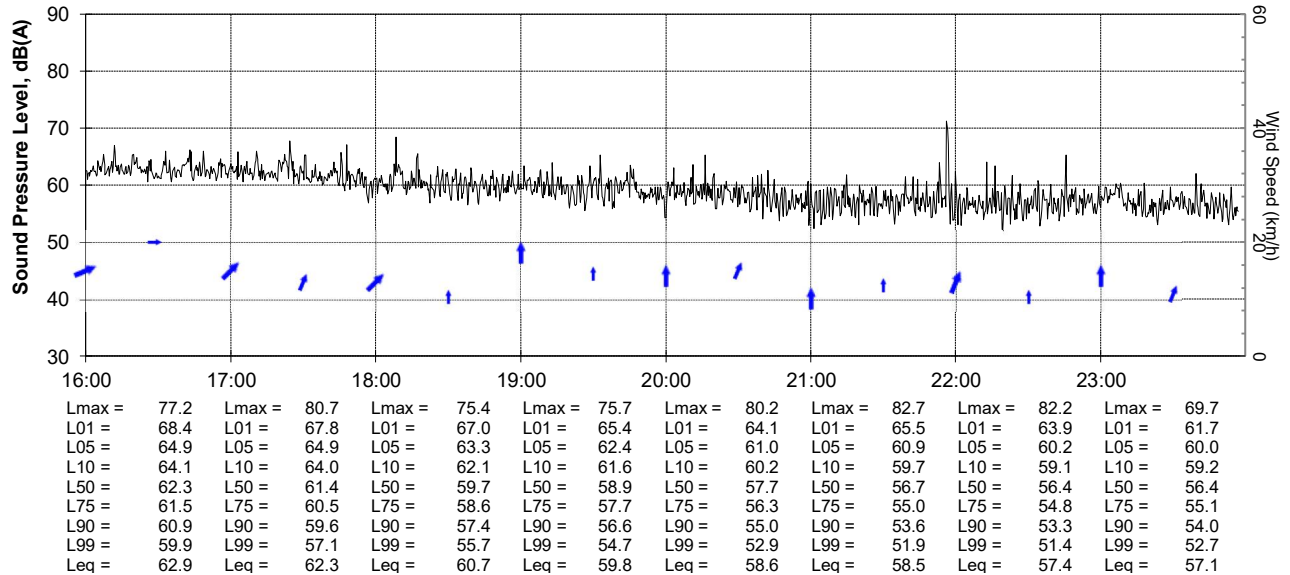
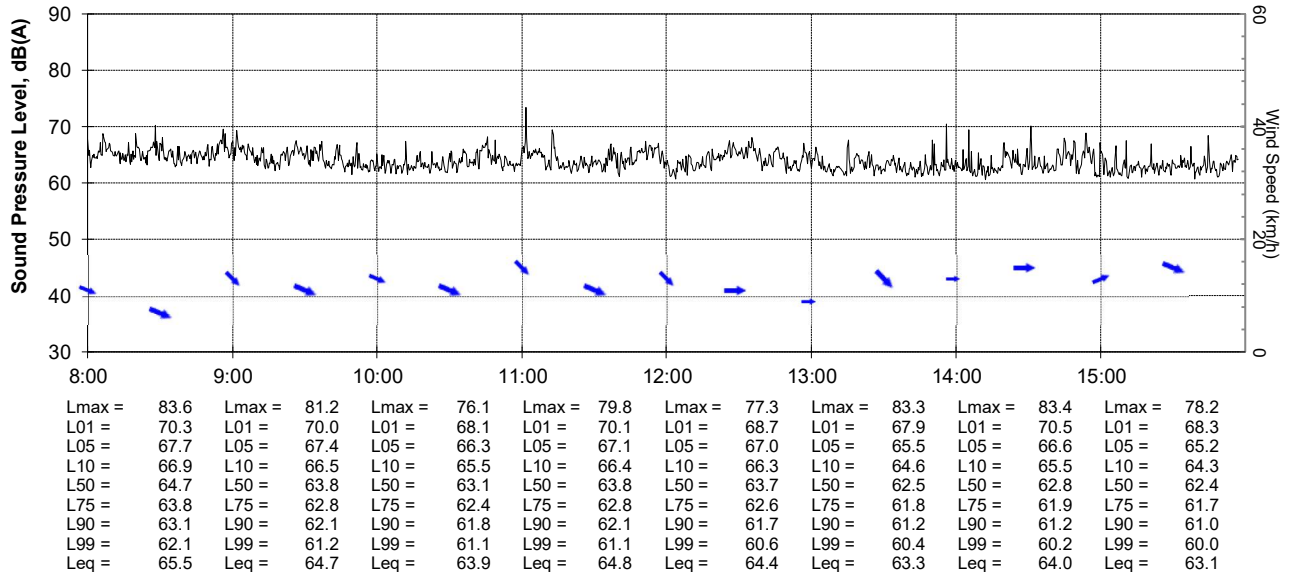
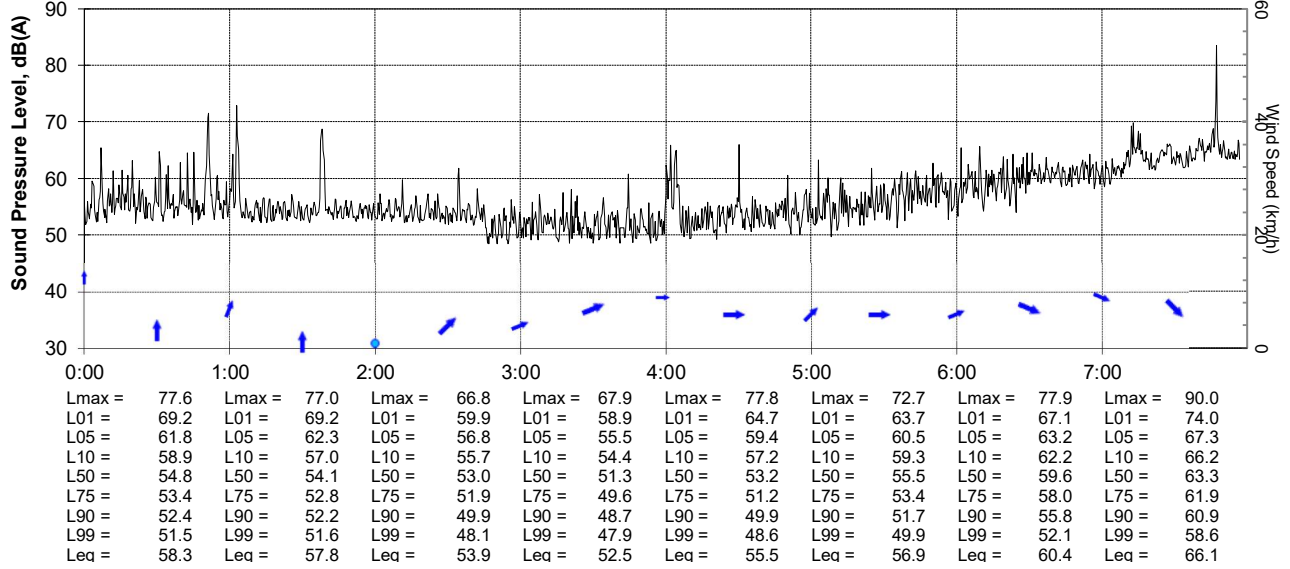
# Results of Noise Monitoring

Client: DCF

Location 28 Albert Rd South Melbourne

Date: Friday  
20 Mar 2020

Microphone position: Level 4, Balcony



Graph based on Leq at 20s intervals,  
Hourly percentiles based on Lp at 0.1s intervals.



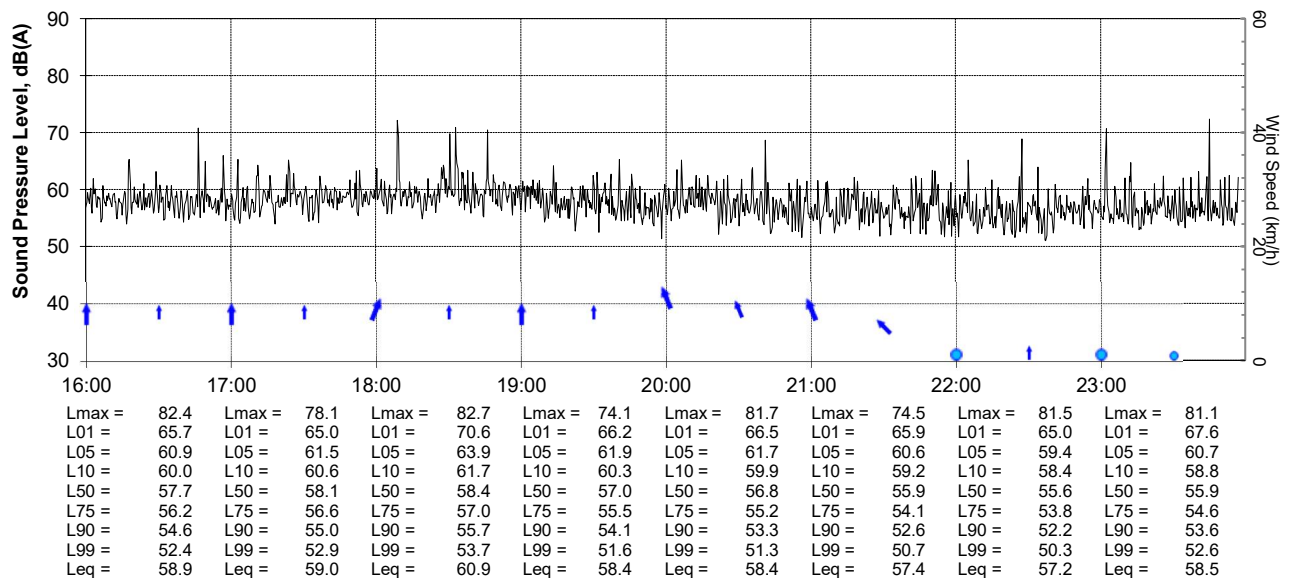
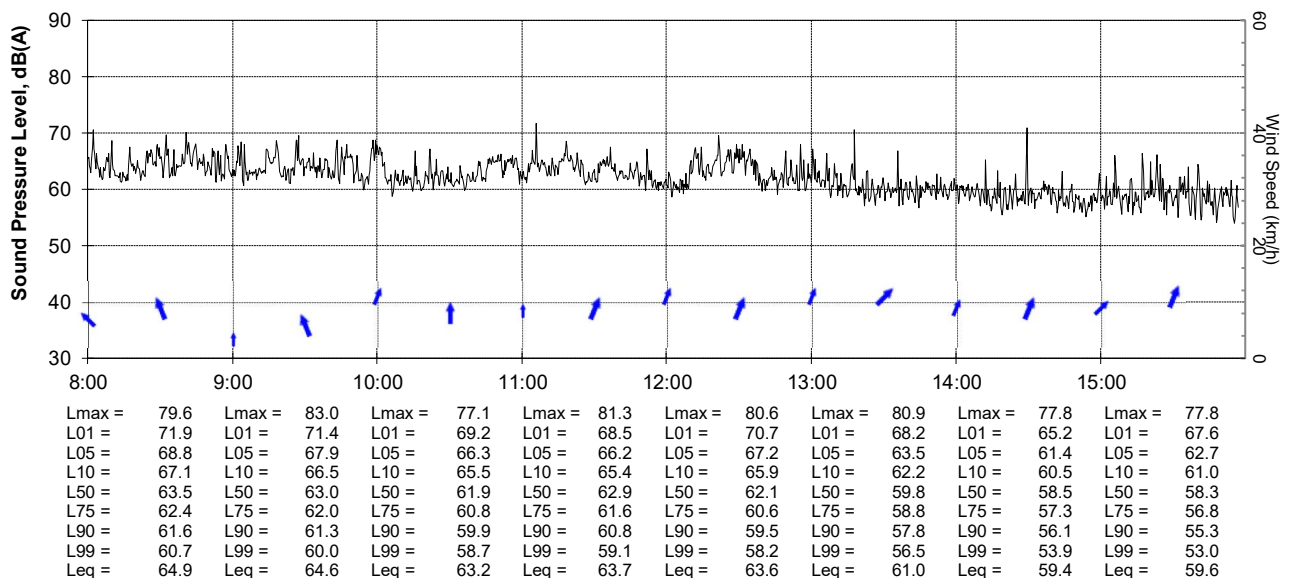
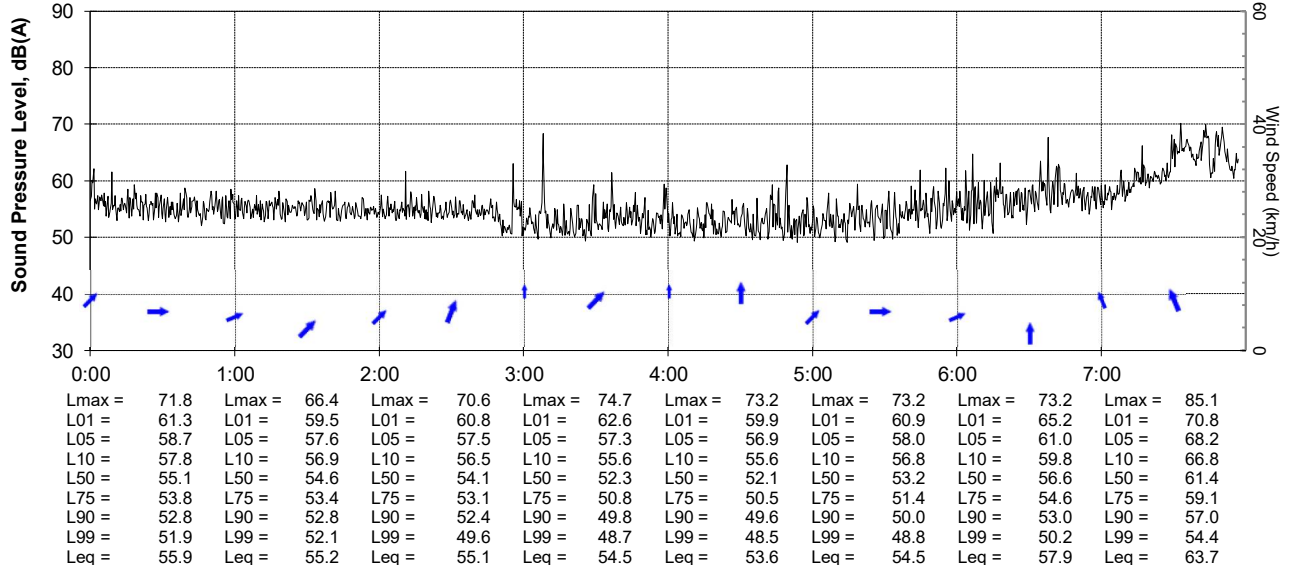
# Results of Noise Monitoring

Client: DCF

Location 28 Albert Rd South Melbourne

Date: Saturday  
21 Mar 2020

Microphone position: Level 4, Balcony



Graph based on Leq at 20s intervals.  
Hourly percentiles based on Lp at 0.1s intervals.



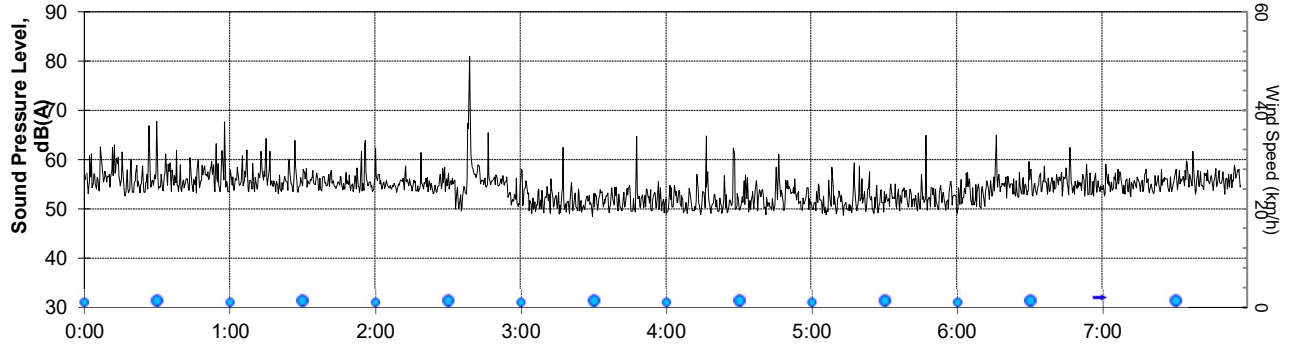
## Results of Noise Monitoring

Client: DCF

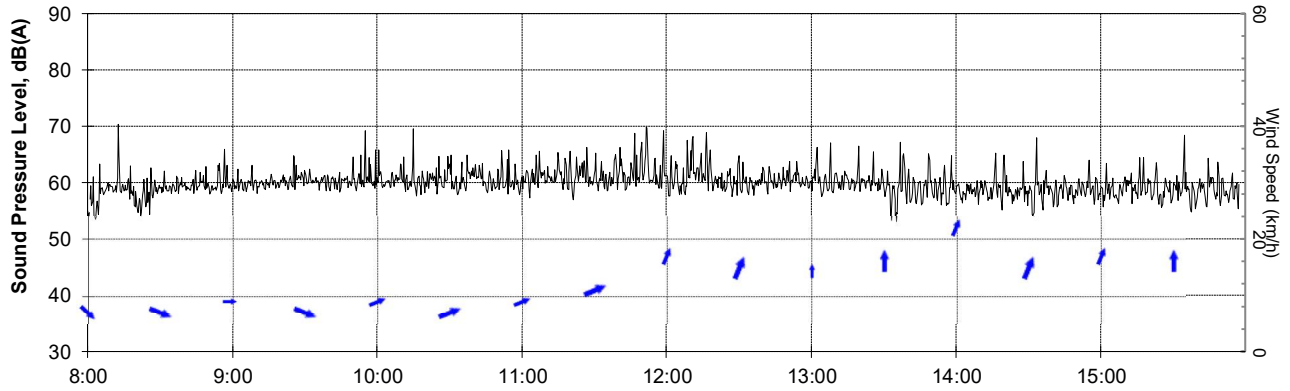
Location 28 Albert Rd South Melbourne

Date: Sunday  
22 Mar 2020

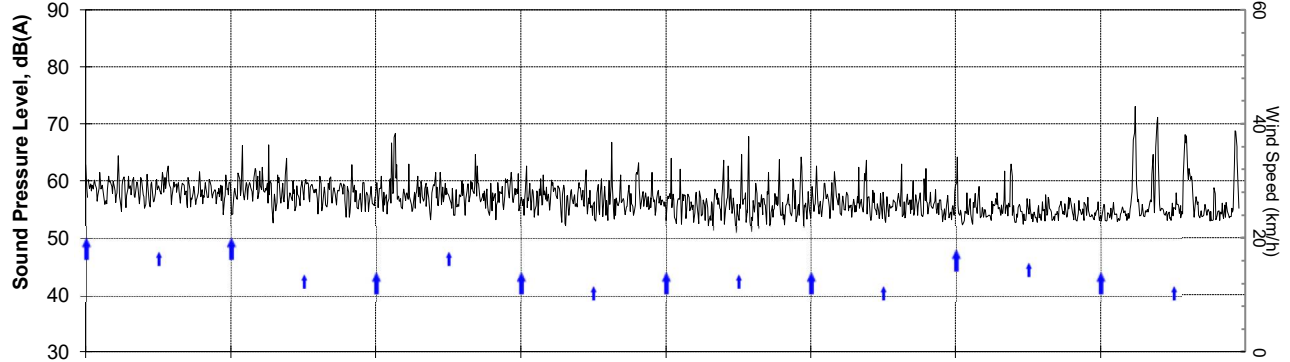
Microphone position: Level 4, Balcony



Lmax = 79.5	Lmax = 75.2	Lmax = 90.5	Lmax = 78.2	Lmax = 73.8	Lmax = 74.3	Lmax = 75.1	Lmax = 72.6
L01 = 67.3	L01 = 65.2	L01 = 68.8	L01 = 58.4	L01 = 60.5	L01 = 58.7	L01 = 60.5	L01 = 60.4
L05 = 60.6	L05 = 58.5	L05 = 58.5	L05 = 55.1	L05 = 55.9	L05 = 55.8	L05 = 58.0	L05 = 58.3
L10 = 58.4	L10 = 57.4	L10 = 57.2	L10 = 54.1	L10 = 54.6	L10 = 54.6	L10 = 57.0	L10 = 57.6
L50 = 55.4	L50 = 55.1	L50 = 54.7	L50 = 51.1	L50 = 51.1	L50 = 51.1	L50 = 53.9	L50 = 55.0
L75 = 54.0	L75 = 54.0	L75 = 53.6	L75 = 49.6	L75 = 49.7	L75 = 49.8	L75 = 52.6	L75 = 53.8
L90 = 53.2	L90 = 53.3	L90 = 52.2	L90 = 49.0	L90 = 48.9	L90 = 49.1	L90 = 51.7	L90 = 52.9
L99 = 52.4	L99 = 52.8	L99 = 49.0	L99 = 48.2	L99 = 48.2	L99 = 48.3	L99 = 48.9	L99 = 52.0
Leq = 57.7	Leq = 56.5	Leq = 60.5	Leq = 52.7	Leq = 53.2	Leq = 52.8	Leq = 55.1	Leq = 55.8



Lmax = 78.3	Lmax = 81.3	Lmax = 82.6	Lmax = 69.5	Lmax = 82.9	Lmax = 79.3	Lmax = 79.4	Lmax = 65.4
L01 = 67.2	L01 = 64.9	L01 = 68.5	L01 = 65.2	L01 = 71.0	L01 = 69.7	L01 = 68.5	L01 = 62.3
L05 = 61.6	L05 = 62.1	L05 = 64.1	L05 = 63.2	L05 = 65.6	L05 = 64.1	L05 = 62.9	L05 = 60.9
L10 = 60.5	L10 = 61.5	L10 = 62.2	L10 = 61.7	L10 = 63.2	L10 = 62.3	L10 = 61.6	L10 = 60.2
L50 = 58.6	L50 = 59.9	L50 = 59.6	L50 = 59.4	L50 = 60.2	L50 = 59.8	L50 = 59.1	L50 = 57.8
L75 = 57.7	L75 = 59.1	L75 = 58.7	L75 = 58.6	L75 = 59.2	L75 = 58.8	L75 = 57.8	L75 = 57.0
L90 = 55.3	L90 = 58.4	L90 = 57.9	L90 = 58.0	L90 = 58.4	L90 = 57.9	L90 = 56.1	L90 = 56.2
L99 = 53.3	L99 = 57.7	L99 = 57.0	L99 = 57.4	L99 = 56.8	L99 = 56.8	L99 = 53.1	L99 = 54.9
Leq = 59.6	Leq = 60.6	Leq = 61.0	Leq = 60.3	Leq = 62.1	Leq = 61.3	Leq = 60.3	Leq = 58.4



Lmax = 79.5	Lmax = 78.6	Lmax = 75.4	Lmax = 76.5	Lmax = 76.8	Lmax = 77.1	Lmax = 73.4	Lmax = 75.4
L01 = 65.5	L01 = 66.1	L01 = 64.4	L01 = 66.7	L01 = 64.1	L01 = 64.0	L01 = 66.5	L01 = 63.9
L05 = 61.4	L05 = 62.1	L05 = 61.6	L05 = 61.5	L05 = 60.8	L05 = 60.1	L05 = 59.7	L05 = 59.5
L10 = 60.5	L10 = 60.9	L10 = 60.6	L10 = 60.3	L10 = 59.7	L10 = 59.2	L10 = 58.3	L10 = 58.0
L50 = 58.3	L50 = 58.4	L50 = 57.9	L50 = 57.3	L50 = 56.8	L50 = 56.2	L50 = 55.1	L50 = 55.0
L75 = 57.0	L75 = 57.1	L75 = 56.4	L75 = 55.7	L75 = 55.3	L75 = 54.4	L75 = 53.4	L75 = 53.8
L90 = 55.6	L90 = 55.8	L90 = 55.1	L90 = 54.3	L90 = 54.1	L90 = 53.0	L90 = 52.1	L90 = 53.0
L99 = 53.7	L99 = 53.9	L99 = 53.4	L99 = 52.5	L99 = 52.5	L99 = 51.4	L99 = 50.6	L99 = 52.0
Leq = 59.2	Leq = 59.4	Leq = 58.8	Leq = 58.8	Leq = 57.9	Leq = 57.4	Leq = 57.0	Leq = 56.5

Graph based on Leq at 20s intervals,  
Hourly percentiles based on Lp at 0.1s intervals.





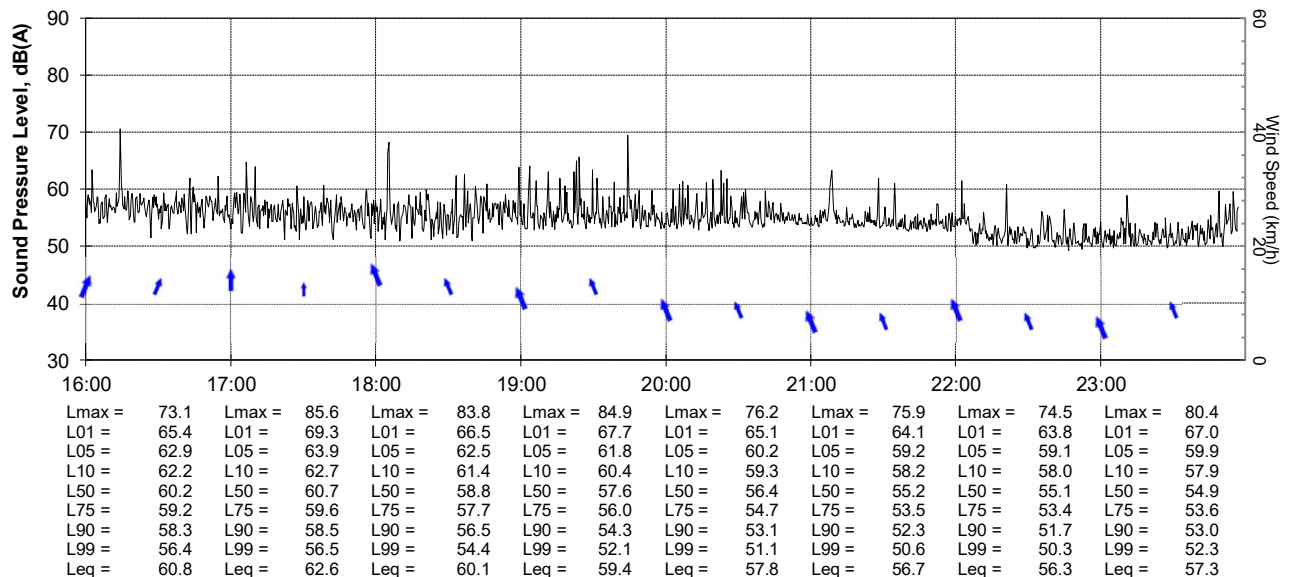
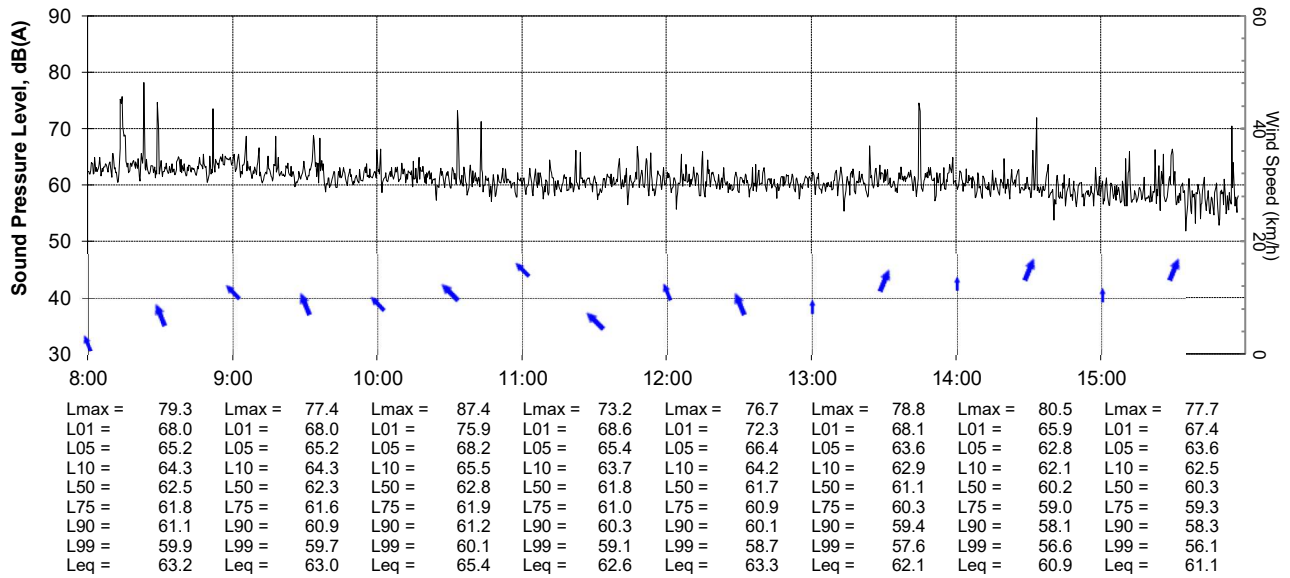
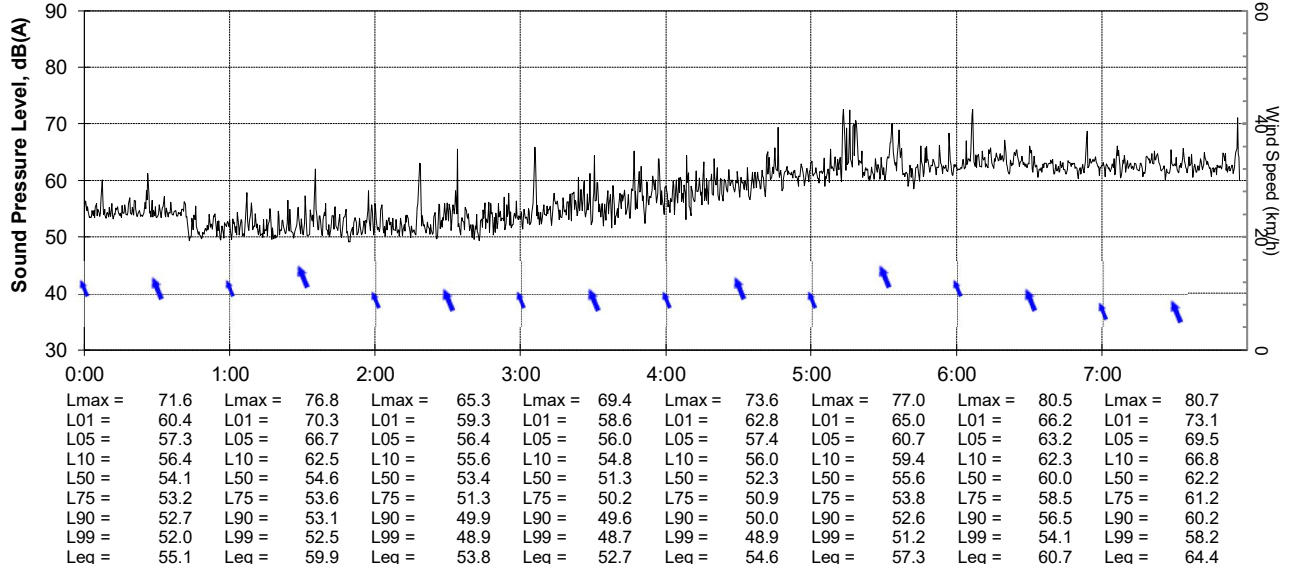
# Results of Noise Monitoring

Client: DCF

Location 28 Albert Rd South Melbourne

Date: Monday  
23 Mar 2020

Microphone position: Level 4, Balcony



Graph based on Leq at 20s intervals,  
Hourly percentiles based on Lp at 0.1s intervals.



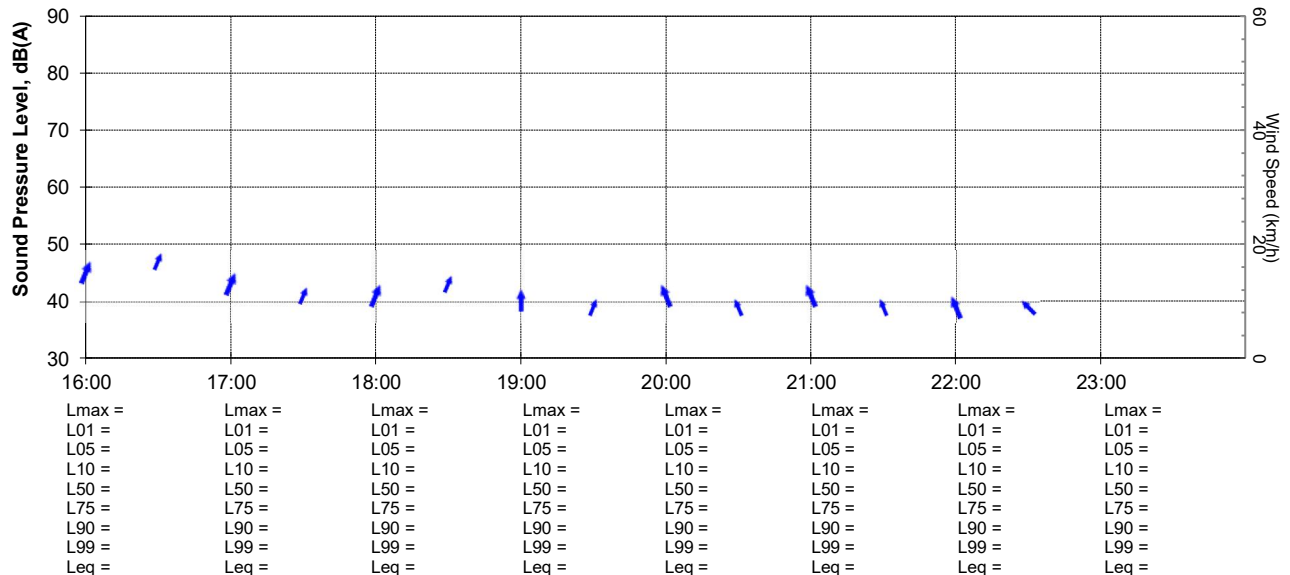
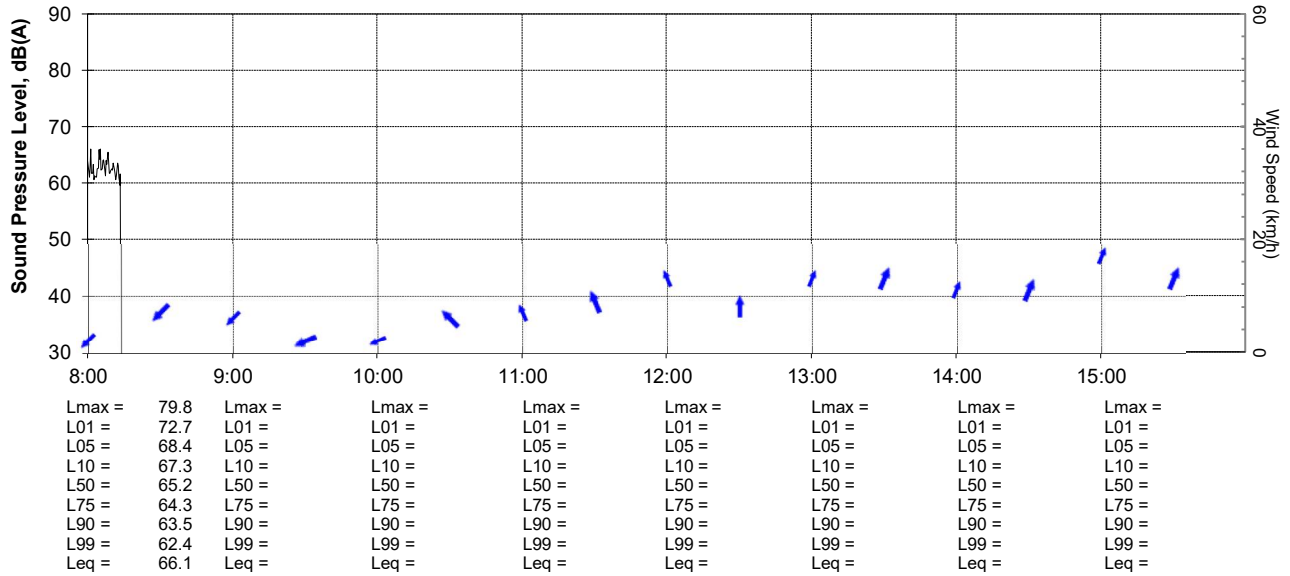
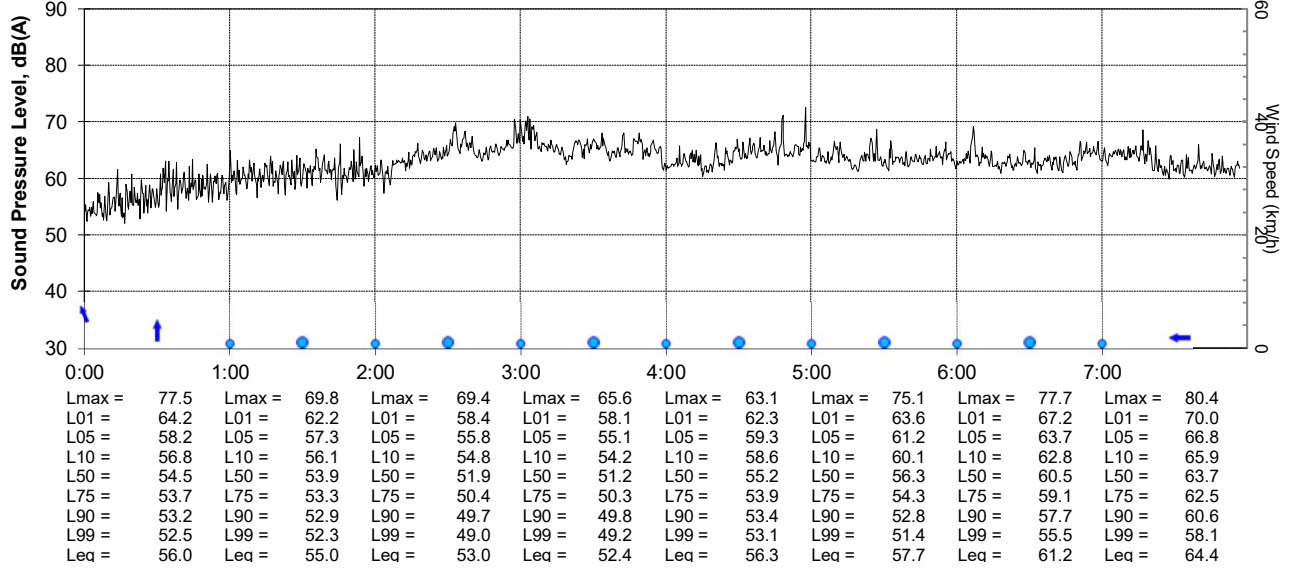
## Results of Noise Monitoring

Client: DCF

Location 28 Albert Rd South Melbourne

Date: Tuesday  
24 Mar 2020

Microphone position: Level 4, Balcony



Graph based on Leq at 20s intervals,  
Hourly percentiles based on Lp at 0.1s intervals.