PROJECT SPECIFIC NOISE LIMITS
URBAN PERSPECTIVES
SUPERYACTH MARINA, ROZELLE BAY

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ENVIRONMENTAL

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1. INTRODUCTION

Following the noise simulations of music at the proposed Superyacht Marina, the need to undertake current noise logging at two residential apartments at 501 Glebe Point Road was evident and agreed to.

The earlier noise impact assessment reports had used older existing noise logging data and to assist in a community consultative framework, noise logging was undertaken at two apartments over a weekday or weekend period.

1.1 BACKGROUND

A brief summary of the previous reports is presented below.

The following are the previous related noise reports:

- Report No: 110056 October 2010
  Title: Environmental Noise Impact Assessment

  The Project Specific Noise Limits were not presented for the 501 Glebe Point Road Apartments. The nearest address used in the 2010 report was 14 Oxley Street. The PSNL recommended the following limits:

Day	58 dB(A)
Evening	50 dB(A)
Night	45 dB(A)

- Report No: 111026 May 2011
  Title: Results of Music Noise Simulations

  This report provided the results of the simulation of live music played at the existing facility.

- Report No: 111026 May 2011
  Title: Responses to Public Submissions

  This report provided responses to the public submissions regarding noise aspects relating to the proposed Sydney Superyacht Marina.

The noise logging provided 15 minute statistical records of the noise levels that have occurred within any 15 minute period during the noise measurement period.

The NSW Industrial Noise Policy (INP) requires that noise logging during adverse weather – mostly excessive wind – be removed from the logger data.

As reviews of our noise impact assessment report has raised the point of why noise modelling does not use higher wind speeds than 3m/sec the wind affected noise logging data has also been presented to illustrate what occurs to the background noise levels during winds exceeding 3 m/sec.

Attended noise logging has also been undertaken to determine the contribution from existing industry during day, evening and night time.

The site is located in Rozelle Bay and the background noise level is assessed at the 501 Glebe Point Road in Glebe.

In the EA it was proposed that a maximum of two outdoor live bands during the day and evening (i.e. 7:00am – 10:00pm) be allowed to operate each day, this being modelled as being within the compliance levels.

During the exhibition period, following conversations with representatives of the local community, a meeting was held on 28th February 2011 with residents of Glebe and their representatives. At the meeting it was agreed to hold noise simulation tests to monitor the noise effects from two outdoor bands. The noise simulation was conducted on 9th April 2011 between 3:15pm and 4:30pm.

Following the noise simulation tests the proponent proposes the following additional mitigation measures:

- Only one external live music performance on the Site at any one time.
- External live music is to be restricted to playing at ground level only and be restricted to 11:00am to 8:00pm and between 9:00am to 8:00pm on special event days. Special event days are Christmas Day, Boxing Day, New Years Eve, New Years Day, Australia Day plus five additional days per calendar year provided 21 days' notice is provided to the Department of Planning & Infrastructure and NSW Maritime.
- Arrangements for external live music must be made by subtenants in consultation with the facility manager.
- All speakers and amplifiers must not face towards the water.

It was also evident and agreed with the community that there was the need to undertake current noise logging at 501 Glebe Point Road. The earlier noise impact assessment reports had used older existing noise logging data and to assist in a community consultative framework, noise logging was undertaken at two apartments over a weekday or weekend period.

The noise logging provided 15 minute statistical records of the noise levels that have occurred within any 15 minute period during the noise measurement period. The NSW Industrial Noise Policy requires that noise logging during adverse weather – mostly excessive wind – be removed from the logger data. As reviews of our noise impact assessment report has raised the point of why noise modelling does not use higher wind speeds than 3m/sec the wind affected noise logging data has also been presented to illustrate what occurs to the background noise levels during winds exceeding 3 m/sec.

Attended noise logging has also been undertaken to determine the contribution from existing industry during day, evening and night time.

The purpose of this report therefore is to outline the project specific noise limits for Superyacht Marina activities at 501 Glebe Point Road, Glebe and examine whether the revised project development, as described above, would comply with those project specific noise limits.

2. EXISTING ACOUSTIC ENVIRONMENT

The existing acoustic environment was assessed for weekdays and weekends separately as the development would have limited entertainment occurring during the week days. We have included Friday as part of the weekend.

The existing noise environment may be different during weekdays and weekends due to the strong contribution to the ambient environment from traffic flow on the Anzac Bridge and the Westlink.

During the operator attended noise measurements it was observed that the main noise contributor is the road traffic noise coming from the City Westlink M4 freeway, in particular, the section from The Crescent in Rozelle, at the western end of Rozelle Bay, to the eastern end of the Anzac Bridge in Pyrmont. It was also observed that any industrial noise in the area is inaudible.

2.1 RESULTS OF UNATTENDED NOISE MONITORING

The results of the unattended noise logging for the weekdays (Monday to Thursday) and weekend (Friday to Sunday) are shown below in Table 2-1 to Table 2-4.

Table 2-1 : Noise Logger Data – Weekdays – Unit 28, 501 Glebe Point Road, dB(A)

Date	Average L1			Average L10			ABL (L90)			Leq		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Thur 19/05/11	62	61	61	58	58	58	55	55	54	57	57	56
Mon 23/05/11	#	#	#	#	#	#	#	#	#	#	#	#
Tues 24/05/11	#	#	#	#	#	#	#	#	#	#	#	#
Wed 25/05/11	#	-	#	#	-	#	#	-	#	#	-	#
Average	62	61	61	58	58	58	*	*	*	*	*	*
Median	*	*	*	*	*	*	55	55	54	*	*	*
Logarithmic Average	*	*	*	*	*	*	*	*	*	57	57	56

Note: * Indicates values that are not relevant to that noise descriptor.
- Indicates that no data was recorded for this period.
# Indicates periods of inclement weather which nullifies the noise levels for that period.

Table 2-2: Noise Logger Data – Weekend – Unit 28, 501 Glebe Point Road, dB(A)

Date	Average L1			Average L10			ABL (L90)			Leq		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Fri 20/05/11	61	61	58	57	57	55	54	54	48	56	56	54
Sat 21/05/11	60	60	58	57	58	55	54	55	50	56	56	54
Sun 22/05/11	60	61	58	57	58	55	52	54	50	56	57	54
Average	60	61	58	57	58	55	*	*	*	*	*	*
Median	*	*	*	*	*	*	54	54	50	*	*	*
Logarithmic Average	*	*	*	*	*	*	*	*	*	56	56	54

Note: * Indicates values that are not relevant to that noise descriptor.
- Indicates that no data was recorded for this period.
# Indicates periods of inclement weather which nullifies the noise levels for that period.

Table 2-3: Noise Logger Data – Weekdays – Unit 8, 501 Glebe Point Road, dB(A)

Date	Average L1			Average L10			ABL (L90)			Leq		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Thur 19/05/11	64	63	61	62	61	58	58	59	55	61	60	57
Mon 23/05/11	#	#	#	#	#	#	#	#	#	#	#	#
Tues 24/05/11	#	#	#	#	#	#	#	#	#	#	#	#
Wed 25/05/11	#	-	#	#	-	#	#	-	#	#	-	#
Average	64	63	61	62	61	58	*	*	*	*	*	*
Median	*	*	*	*	*	*	58	59	55	*	*	*
Logarithmic Average	*	*	*	*	*	*	*	*	*	61	60	57

Note: * Indicates values that are not relevant to that noise descriptor.
- Indicates that no data was recorded for this period.
# Indicates periods of inclement weather which nullifies the noise levels for that period.

Table 2-4: Noise Logger Data – Weekend – Unit 8, 501 Glebe Point Road, dB(A)

Date	Average L1			Average L10			ABL (L90)			Leq		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Fri 20/05/11	63	63	58	61	61	55	58	59	48	60	60	54
Sat 21/05/11	63	63	59	61	61	56	58	59	50	59	60	55
Sun 22/05/11	63	63	58	61	61	55	58	59	51	60	60	54
Average	63	63	58	61	61	55	*	*	*	*	*	*
Median	*	*	*	*	*	*	58	59	50	*	*	*
Logarithmic Average	*	*	*	*	*	*	*	*	*	60	60	54

Note: * Indicates values that are not relevant to that noise descriptor.
- Indicates that no data was recorded for this period.
# Indicates periods of inclement weather which nullifies the noise levels for that period.

The noise logging data shows that there are only minor variations in the noise descriptors – L_{A1}, L_{A10}, L_{A90} and L_{Aeq} – during Monday and Thursday and the "weekend" period which for this assessment includes the Friday.

The noise logging for Units 8 and 28 show higher noise levels for Unit 8 with the L_{A90} levels typically 3-4 dB(A) higher during day and evening time.

After 10pm when night time occurs the difference in the L_{A90} levels is negligible.

2.2 RESULTS OF OPERATOR ATTENDED NOISE MONITORING

Table 2-5: Measured Noise Levels, Attended Noise Monitoring Results – Weekday – Day Period, dB(A)

Measurement Location	Noise Descriptor		Observed Meteorological Conditions	Comments and Observations
Unit 8, 501 Glebe Point Road Thursday 2/06/2011 10:25 am	L_{A1}	66.6	Light wind; No rain; Sunny.	• Birds ≤ 61 dB(A) SPL • Truck ≤ 59 dB(A) SPL • Voices ≤ 55 dB(A) SPL • Insects ≤ 56 dB(A) SPL • Aeroplane ≤ 74.4 dB(A) SPL • Siren ≤ 57.1 dB(A) SPL • Impacts due to construction ≤ 61.1 dB(A) SPL • Dog running ≤ 57 dB(A) SPL • Horn ≤56.6 dB(A) SPL • Vehicle brakes ≤ 56.3 dB(A) SPL • Street-sweeper truck ≤ 58 dB(A) SPL • Road traffic ≤ 59 dB(A) SPL • Boat ≤ 56.8 dB(A) SPL • People's steps ≤ 57.9 dB(A) SPL
	L_{A10}	58.4		
	L_{Aeq}	57.4		
	L_{A90}	54.1		

Table 2-6: Measured Noise Levels, Attended Noise Monitoring Results – Weekday – Evening Period, dB(A)				
Measurement Location	Noise Descriptor		Observed Meteorological Conditions	Comments and Observations
Unit 8, 501 Glebe Point Road Thursday 2/06/2011 6:24 pm	L_{A1}	63.9	Light wind; No rain; Sunny.	• Truck ≤ 55 dB(A) SPL • Bus ≤ 53 dB(A) SPL • Dog running ≤ 52 dB(A) SPL • Voices ≤ 54.7 dB(A) SPL • Aeroplane ≤ 72.2 dB(A) SPL • Road traffic ≤ 50 dB(A) SPL • Dog's bark ≤ 76 dB(A) SPL • People running ≤ 53.2 dB(A) SPL • Bike ≤ 59.9 dB(A) SPL • Birds ≤ 552.8 dB(A) SPL • Boat ≤ 56.8 dB(A) SPL • Bell ≤ 56 dB(A) SPL • Generator engine ≤ 49.4 dB(A) SPL • Car on Glebe Point Rd ≤ 52 dB(A) SPL • Insects ≤ 60 dB(A) SPL
	L_{A10}	53.9		
	L_{Aeq}	53.9		
	L_{A90}	49.1		

Table 2-7: Measured Noise Levels, Attended Noise Monitoring Results – Weekday – Night Period, dB(A)				
Measurement Location	Noise Descriptor		Observed Meteorological Conditions	Comments and Observations
Unit 8, 501 Glebe Point Road Thursday 2/06/2011 10:44 pm	L_{A1}	56.7	Light wind; No rain; Sunny.	• Birds ≤ 53.3 dB(A) SPL • Road traffic ≤ 58 dB(A) SPL • Cough ≤ 64 dB(A) SPL • People talking ≤ 56 dB(A) SPL • Car on Glebe Point Rd ≤ 54.5 dB(A) SPL • People's steps ≤ 57.1 dB(A) SPL • Motorbike ≤ 58 dB(A) SPL • Door slam ≤ 58.8 dB(A) SPL • Water dripping from balcony ≤ 54 dB(A) SPL • Truck ≤ 58.4 dB(A) SPL
	L_{A10}	54.9		
	L_{Aeq}	53.6		
	L_{A90}	52.0		

Table 2-8: Measured Noise Levels, Attended Noise Monitoring Results – Weekend – Day Period, dB(A)				
Measurement Location	Noise Descriptor		Observed Meteorological Conditions	Comments and Observations
Unit 8, 501 Glebe Point Road Saturday 18/06/2011 4:53 pm	L_{A1}	62.3	West wind; No rain; Sunny.	• Vacuum cleaner ≤ 52.3 dB(A) SPL • Birds ≤ 58.3 • Wind through trees ≤ 53.8 • Motorbike on M4 ≤ 57 • People laughing ≤ 56 • Dog's bark ≤ 64.2 • People's steps ≤ 52.7 • People talking ≤67.4 • Boat ≤ 60.3 • Dog running ≤ 55 • Road traffic ≤ 52 • Horn ≤ 54.9 • Aeroplane ≤ 70.4 • Whistle ≤ 54.5 • Bus brakes ≤ 60 • Dog's bell ≤ 54 • Keys sound ≤ 54.4 • Skateboard ≤ 55.2
	L_{A10}	56.1		
	L_{Aeq}	54.5		
	L_{A90}	51.7		

Table 2-9: Measured Noise Levels, Attended Noise Monitoring Results – Weekend – Evening Period, dB(A)				
Measurement Location	Noise Descriptor		Observed Meteorological Conditions	Comments and Observations
Unit 8, 501 Glebe Point Road Saturday 18/06/2011 7:34 pm	L_{A1}	55.1	Light west wind; No rain; Clear.	• Road traffic ≤ 55.2 • Water waves ≤ 52 • Motorbike ≤ 66.1 • Windows blinds ≤ 54.2 • Grinder ≤ 51.8 • Wind through trees ≤ 52.1 • Car in Glebe Point Rd ≤ 51.8 • Bus ≤ 54.8 • Voices ≤ 51.7 • Music from the other side ≤ 51.1 • Aeroplane ≤ 53.2 • Music from house in Glebe Point Rd ≤ 53.4
	L_{A10}	53.1		
	L_{Aeq}	52.1		
	L_{A90}	50.6		

Table 2-10: Measured Noise Levels, Attended Noise Monitoring Results – Weekend – Night Period, dB(A)				
Measurement Location	Noise Descriptor		Observed Meteorological Conditions	Comments and Observations
Unit 8, 501 Glebe Point Road Sunday 19/06/2011 3:24 am	L_{A1}	52.9	No wind; No rain; Clear.	• Birds ≤ 52.5 • Traffic noise ≤ 52.5 • Car in Glebe ≤ 57.7 • Fish in the water ≤ 49.2 • Car engine ≤ 57.5 • Horn ≤ 55.2 • Hit sound ≤ 50.5 • Chains noise ≤ 49 • Burst ≤ 55
	L_{A10}	50.6		
	L_{Aeq}	49.2		
	L_{A90}	47.6		

3. CURRENT LEGISLATION AND GUIDELINES

3.1 NSW INDUSTRIAL NOISE POLICY

The NSW Industrial Noise Policy was developed by the NSW EPA primarily for the assessment of noise emissions from industrial sites regulated by the NSW EPA. However, the policy can also be used by Planning NSW and local government to assist in their assessment of potential noise issues.

An important point to note in the policy is presented in Section 1.4.1. This section states:

> "*The industrial noise source criteria set down in Section 2 are best regarded as planning tools. They are not mandatory, and an application for a noise-producing development is not determined purely on the basis of compliance or otherwise with the noise criteria. Numerous other factors need to be taken into account in the determination. These factors include economic consequences, other environmental effects and the social worth of the development.*"

The policy sets out two criteria that are used to assess potential site-related noise impacts. The first criterion aims at controlling intrusive noise impacts in the short-term for residences. This criterion is therefore called the intrusiveness criterion.

The second criterion aims at maintaining a suitable amenity for particular land uses including residences in the long-term. This criterion is called the amenity criterion.

3.1.1 Intrusiveness Criterion

The intrusiveness criterion is summarized as follows:

$L_{Aeq,\ 15\ minute} \leq$ rating background level plus 5

Where:

$L_{Aeq,\ 15\ minute}$ represents the equivalent continuous (energy average) A-weighted sound pressure level of the source over 15 minutes.

Rating background level is the background level to be used for assessment purposes as determined by the method outlined in section 3.1 of the NSW INP.

This is to be assessed at the most affected point on or within the residential property boundary or if that is more than 30 m from the residence, at the most affected point within 30m of the residence.

The intrusiveness criteria for receivers considered to be within the urban classification are presented in Table 3-1 and Table 3-2.

Table 3-1: Intrusiveness criterion Weekdays

Location	ABL (L90) + 5dB		
	Day	Evening	Night
Unit 28	55+ 5 = 60	55+ 5 = 60	54+ 5 = 59
Unit 8	58 + 5 = 63	59 + 5 = 64	55+ 5 = 60

Table 3-2: Intrusiveness criterion Weekend

Location	ABL (L90) + 5dB		
	Day	Evening	Night
Unit 28	54 + 5 = 59	54 + 5 = 59	50+ 5 = 55
Unit 8	58 + 5 = 63	59 + 5 = 64	50+ 5 = 55

3.1.2 Amenity Criterion

The amenity criterion is determined using the guidelines presented in Section 2.2 of the NSW Industrial Noise Policy. Table 3-3 summarise the key information.

Table 3-3: Amenity Criteria – Recommended L_{Aeq} Noise Levels from Industrial Noise Sources

Type of Receiver	Indicative Noise Amenity Area	Time of Day	Recommended L_{Aeq} Noise Level, dB(A)	
			Acceptable	Recommended Maximum
Residence	Urban	Day	60	65
		Evening	50	55
		Night	45	50

Where the existing noise level from industrial noise sources is close to the acceptable noise level, the noise level from any new source(s) must be controlled to preserve the amenity of an area.

The existing industrial noise levels observed at both monitoring locations are compared to the acceptable noise level and the Table 3-4 below is used to derive the amenity criterion.

Table 3-4: Modification to Acceptable Noise Level (ANL1) to Account for Existing Level of Industrial Noise (values expressed as dB(A))

Total existing L_{Aeq} noise level from industrial sources	Maximum L_{Aeq} noise level for noise from new sources alone
≥ ANL + 2	If existing noise level is likely to decrease in future: ANL – 10 If existing noise level is unlikely to decrease in the future: Existing level – 10
ANL + 1	ANL – 8
ANL	ANL – 8
ANL – 1	ANL – 6
ANL – 2	ANL – 4
ANL – 3	ANL – 3
ANL – 4	ANL – 2
ANL – 5	ANL – 2
ANL – 6	ANL –1
< ANL - 6	ANL

Further to the above, where the character of the noise in question is assessed as annoying (i.e. if it has an inherently tonal, low frequency, impulsive or intermittent character), then an adjustment of 5 dB (A) for each annoyance aspect, up to a total of 10 dB (A), is to be added to the measured value to penalise the noise for its potential increase in annoyance.

Table 4.1 of Chapter 4 of the NSW INP provides definitive procedures for determining whether a penalty or adjustment should be applied for increased annoyance. Specifically for tonal noise, a one-third octave (or narrow band analysis) is required and a 5 dB (A) penalty is applied to the measured or predicted level when the level of one-third octave band exceeds the level of the adjacent bands on both sides by:

- 5 dB(A) or more if the centre frequency of the band containing the tone is above 400 Hz;
- 8 dB(A) or more if the centre frequency of the band containing the tone is 160 to 400 Hz inclusive; and
- 15 dB (A) or more if the centre frequency of the band containing the tone is below 160 Hz.

The INP requires a 5 dB (A) penalty if the noise is predominately low frequency noise. This penalty is to be applied if the C-weighted noise level is 15 dB or more than the A-weighted noise level.

The INP requires that the impulsive penalty be applied if the difference between the maximum A-weighted noise levels between Fast and Impulse Response is more than 2 dB(A). The penalty if the difference between the levels up to a maximum of 5 dB (A).

The INP requires an intermittency penalty to the night time noise level if the noise level varies by more than 5 dB(A). A penalty of 5 dB (A) is applied to noise that is predominantly low frequency. A noise is considered to be low frequency noise if the difference between A-weighted and C-weighed noise levels is 15 dB(A) or more. A 5 dB (A) penalty is applied to noise that is impulsive. A noise is considered impulsive if the difference maximum A-weighted noise levels between fast response and impulse response is greater than 2 dB (A).

Analysis of the noise spectra was undertaken and no inherent tonal, low frequency, impulsive or intermittent characteristics were found to be present. As a result no adjustments or penalties have been applied to the measured value.

The operator attended noise measurement highlighted that the main noise source is the road traffic noise and the industrial noise in that area is inaudible, therefore no correction in Table 3-4 are applied.

3.2 PROJECT SPECIFIC NOISE LIMITS

Noise limits for the site can now be established in accordance with the principles and methodologies of the NSW INP, the measured background noise levels and the measured existing industrial noise of the area.

According to the NSW INP, it is recommended that the more stringent noise limit be applied to protect the existing acoustic amenity from deteriorating.

The selected Project-Specific Noise Limits for all receiver locations are presented below in Table 3-5 and Table 3-6 for the Weekdays and Weekend respectively.

Table 3-5: Project-Specific Residential Noise Limits (PSNL) – Weekdays, dB(A)

Receiver	Indicative Noise Amenity Area	Period	Acceptable Noise Level	Amenity Limit[1]	Intrusive Limit L_{A90} +5dB(A)	PSNL
Unit 28	Urban	Day	60	60	60	60
		Evening	50	50	60	50
		Night	45	45	59	45
Unit 8	Urban	Day	60	60	63	60
		Evening	50	50	64	50
		Night	45	45	60	45

Table 3-6: Project-Specific Residential Noise Limits (PSNL) – Weekend, dB(A)						
Receiver	Indicative Noise Amenity Area	Period	Acceptable Noise Level	Amenity Limit[1]	Intrusive Limit L_{A90} +5dB(A)	PSNL
Unit 28	Urban	Day	60	60	59	59
		Evening	50	50	59	50
		Night	45	45	55	45
Unit 8	Urban	Day	60	60	63	60
		Evening	50	50	64	50
		Night	45	45	55	45

In conclusion the following are the project specific noise limits:

Day time: 60 dB(A)
Evening: 50 dB(A)
Night time: 45 dB(A)

These only vary slightly from the original project specific noise limits recommended in the Report 110056 from October 2010.

The music simulations show that music levels with one band playing would be in the range L_{Aeq} 54-61.5 dB(A) to a worst case of L_{Aeq} 61.5 dB(A).

A number of noise management techniques are available to achieve a 50 dB(A) noise level so that music noise levels would readily comply up to 8pm.

An examination of the L_{A90} noise logger graphs show that the L_{A90} levels will typically be 5 dB(A) above the evening and night time project specific noise limits and this will assist in masking noise emissions from the development.

For night time (past 10pm) a L_{Amax} limit is also advisable to prevent sleep disturbance. This is also advisable to prevent sleep disturbance. This would be selected based on protecting internal noise levels and has yet to be determined.

4. CONCLUSION

The study highlights some acoustic environment differences between weekdays and the weekend, nevertheless the project specific noise limits are similar. The acceptable noise level limits have been adopted for both locations for the majority of time periods due to the existing high level of background noise in the area, primarily due to road traffic noise. These project specific noise limits are detailed in the body of the report and are shown in Table 3-5 and Table 3-6.

The extent of the noise sources from the proposed Marina needs to be reconsidered in the full context of entertainment and functions that may be held.

Noise modelling of these noise sources will need to consider noise controls that have been discussed and these are able to be specified prior to a construction certificate being released.

As the extent of the marina activities could impact on these, the activities at the yacht club need to be advised and included in the acoustic design of the western building.

As it was made clear during the community consultation meeting that the western building which was to house the function centre would be acoustically treated, these details need to be added to a noise design report issued for construction. That building is now proposed to include a yacht club (amongst other uses, including the holding of functions) instead of a function centre.

Music noise external to the buildings will be in conjunction with the ancillary restaurants/bars/cafes at the marina and will involve only one band. Noise controls are readily available to ensure satisfactory compliance with one external noise source. Adhering to a 50 dB(A) evening noise limit will place the music noise levels well below the traffic noise levels for this same time period.

It is suggested that a detailed noise management plan be prepared in order to assist management with best practise noise control methods throughout the daily operations of the marina.

This concludes the report.

Prepared by:

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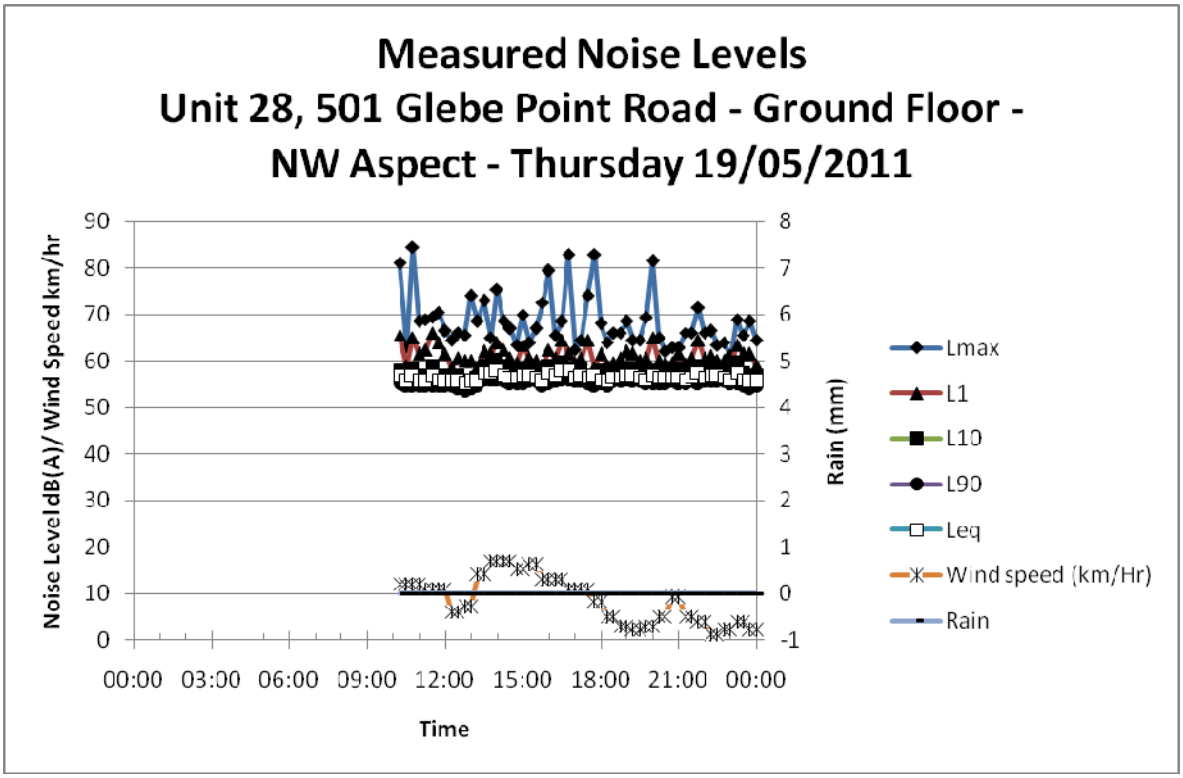
5. LIMITATIONS

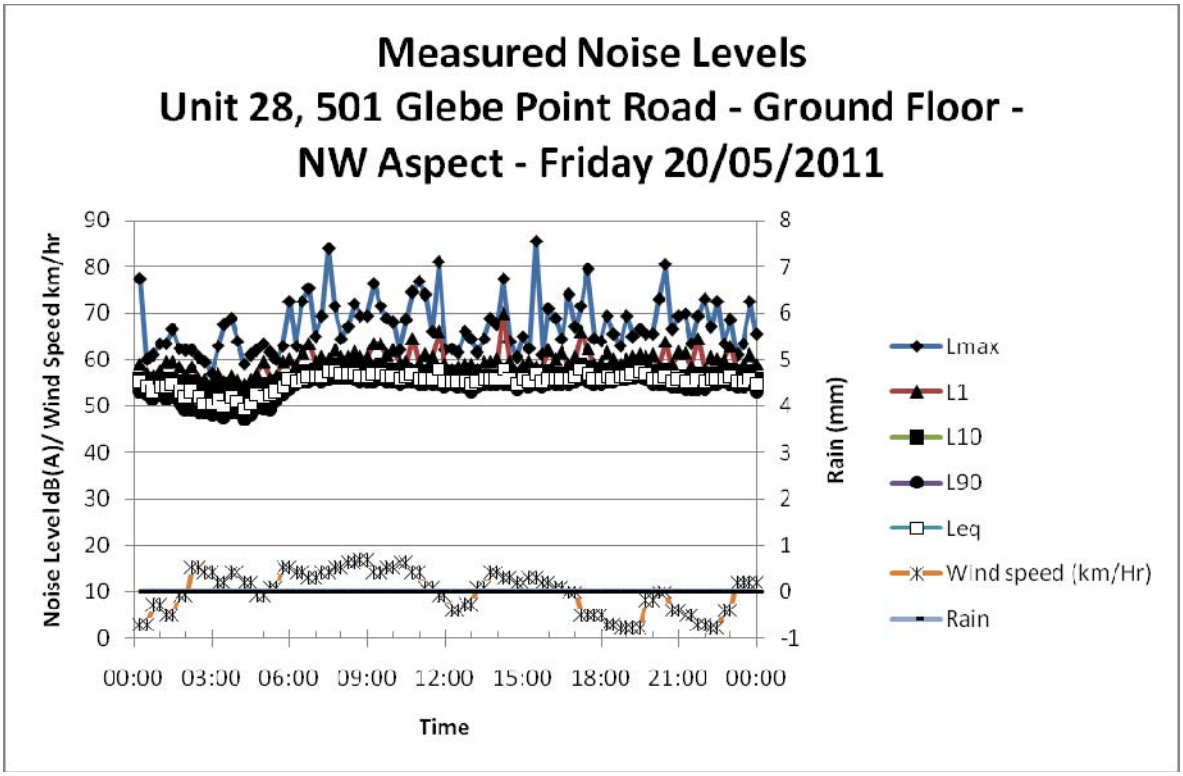
This report has been prepared solely for the use by Urban Perspectives, as per our agreement for providing environmental assessment services. Although all due care has been taken in the preparation of this study, no warranty is given, nor liability accepted (except that required by law) in relation to the information contained within this document.

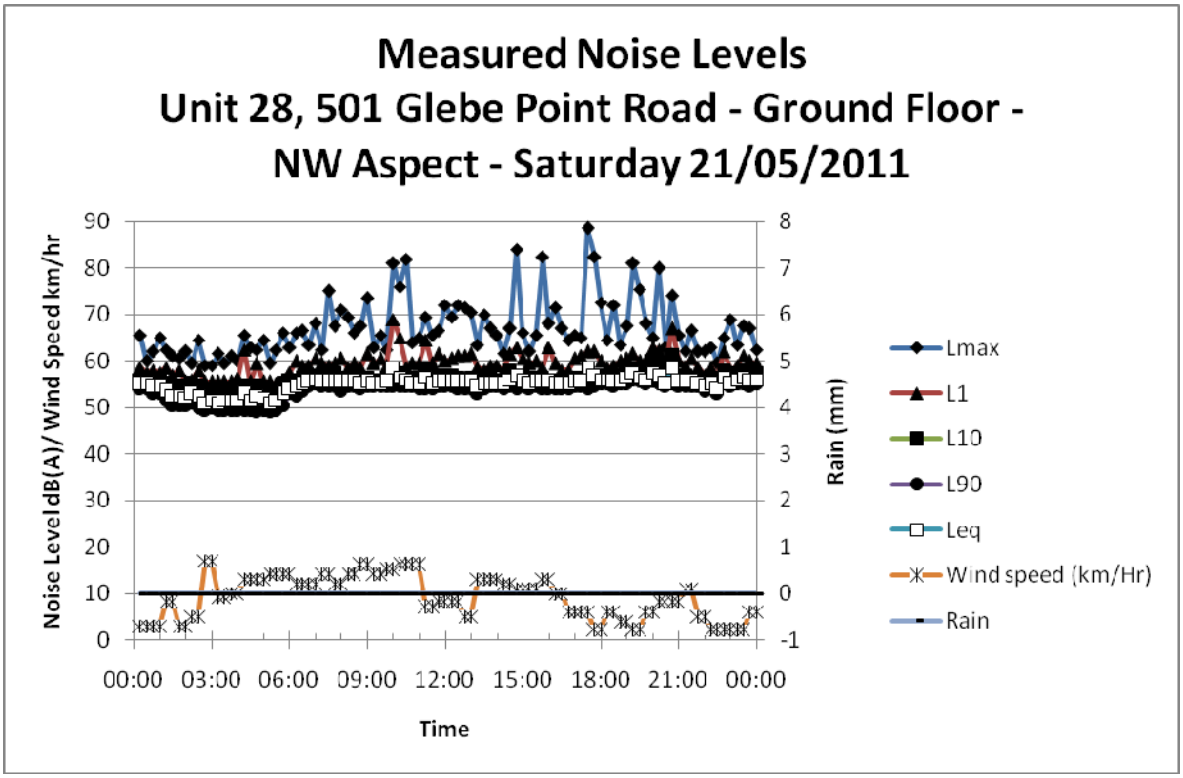
Urban Perspectives is entitled to rely upon the findings in the report within the scope of work described in this report. No responsibility is accepted for the use of any part of the report in any other context or for any other purpose.

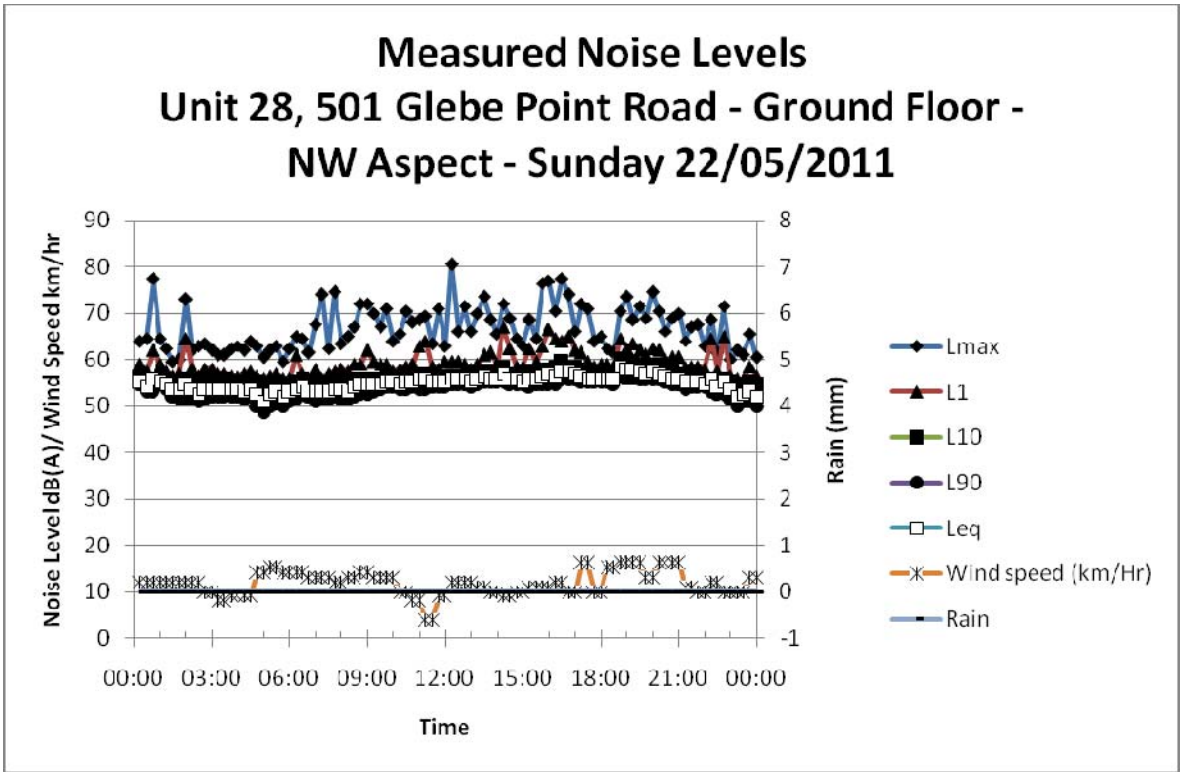
ATTACHMENTS

Attachment 1: Noise Logger Data Charts

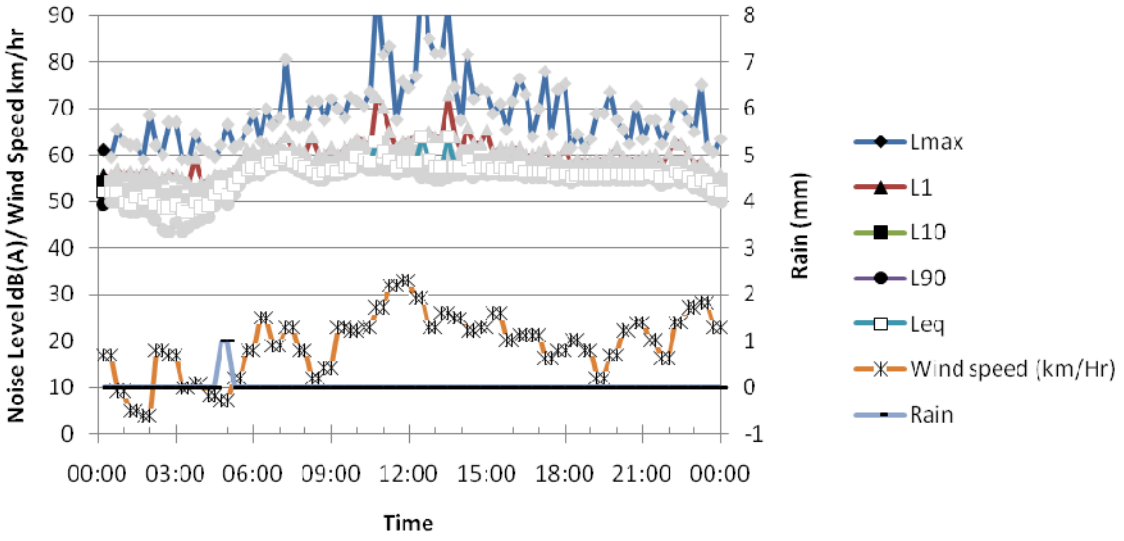

Measured Noise Levels
Unit 28, 501 Glebe Point Road - Ground Floor -
NW Aspect - Thursday 19/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain


Measured Noise Levels
Unit 28, 501 Glebe Point Road - Ground Floor -
NW Aspect - Friday 20/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain

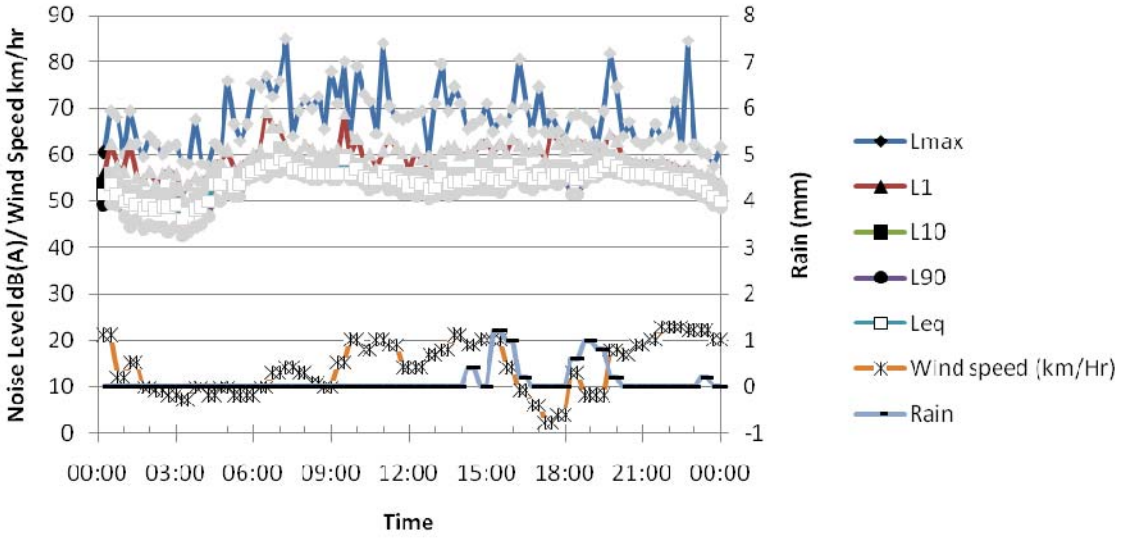

Measured Noise Levels
Unit 28, 501 Glebe Point Road - Ground Floor -
NW Aspect - Saturday 21/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain

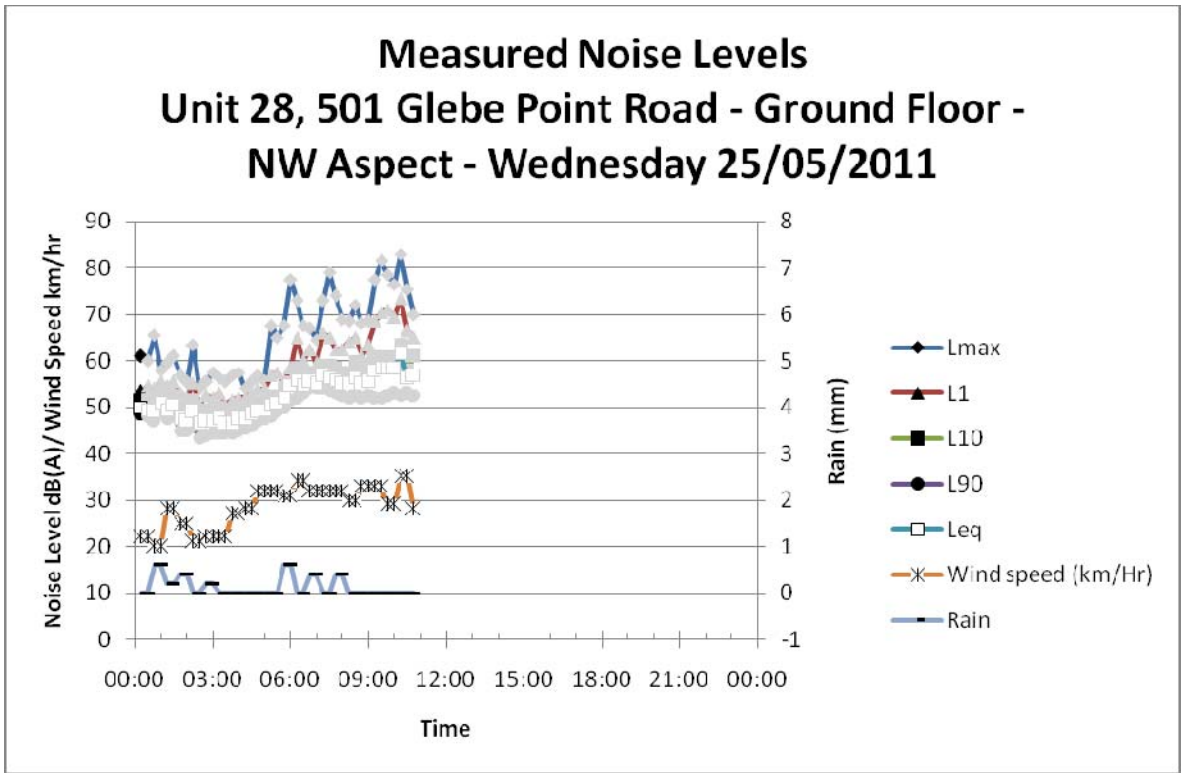

Measured Noise Levels
Unit 28, 501 Glebe Point Road - Ground Floor -
NW Aspect - Sunday 22/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain

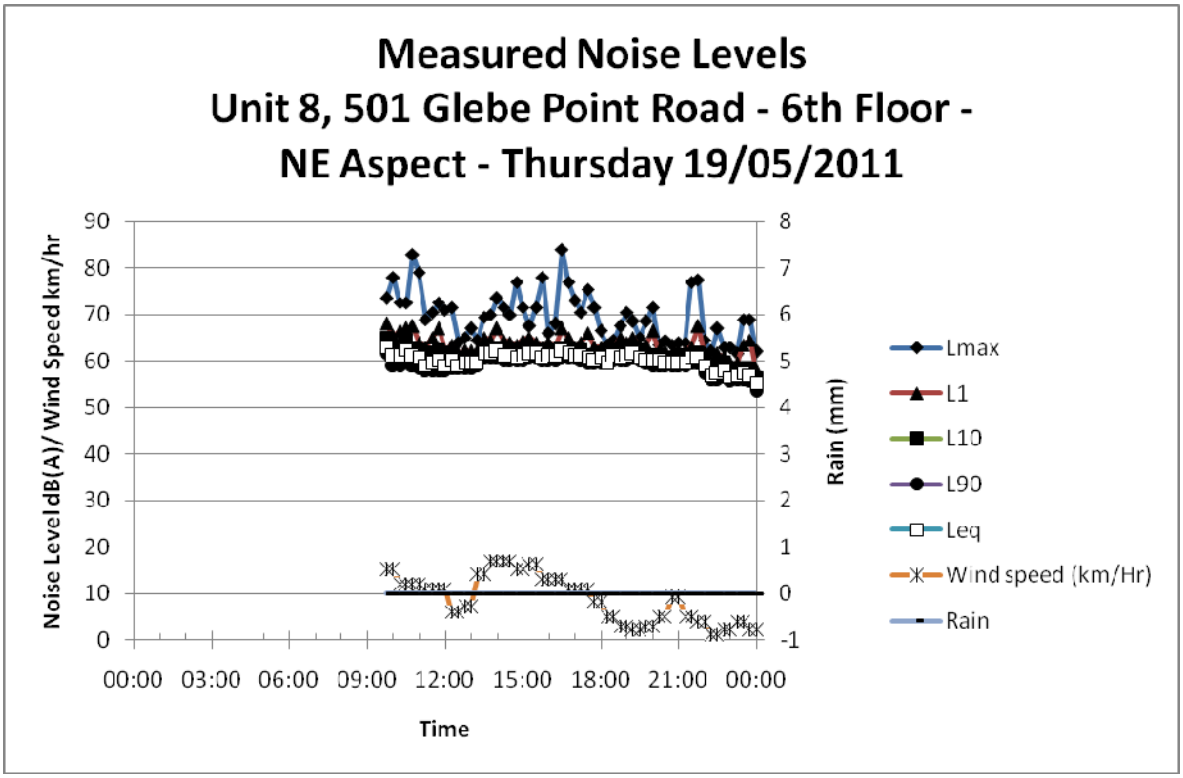
Measured Noise Levels
Unit 28, 501 Glebe Point Road - Ground Floor -
NW Aspect - Monday 23/05/2011

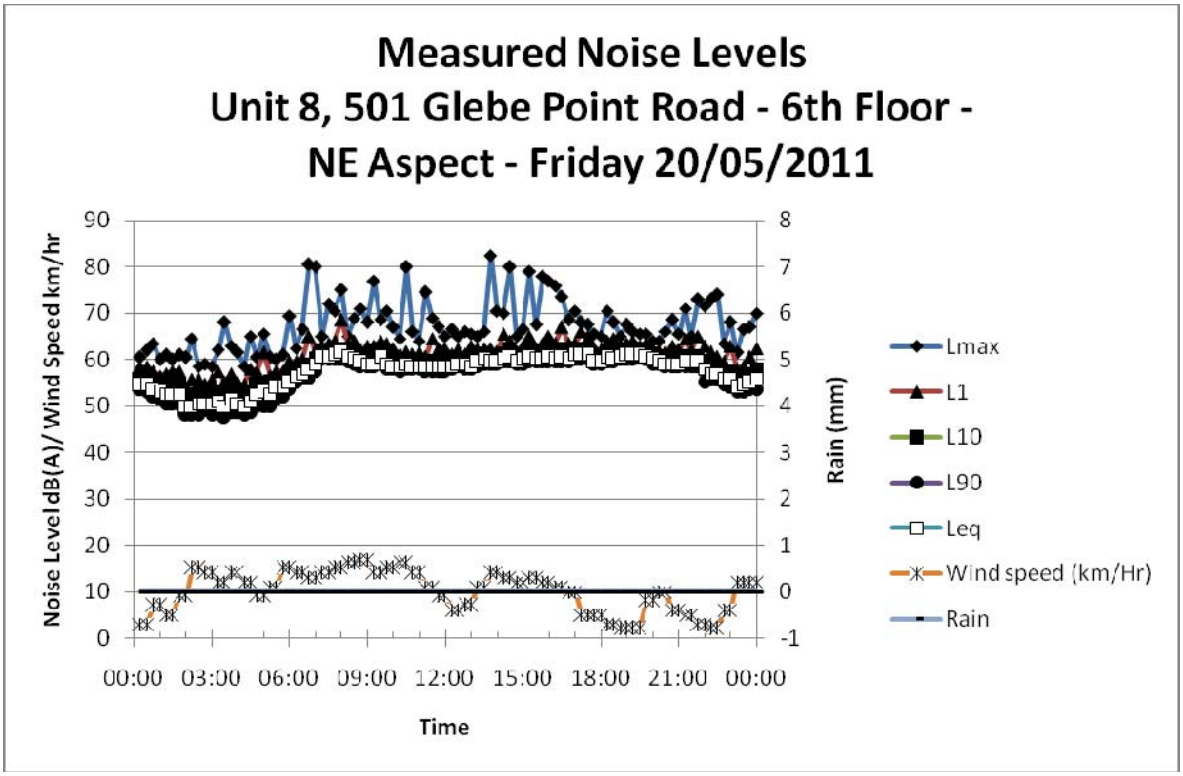


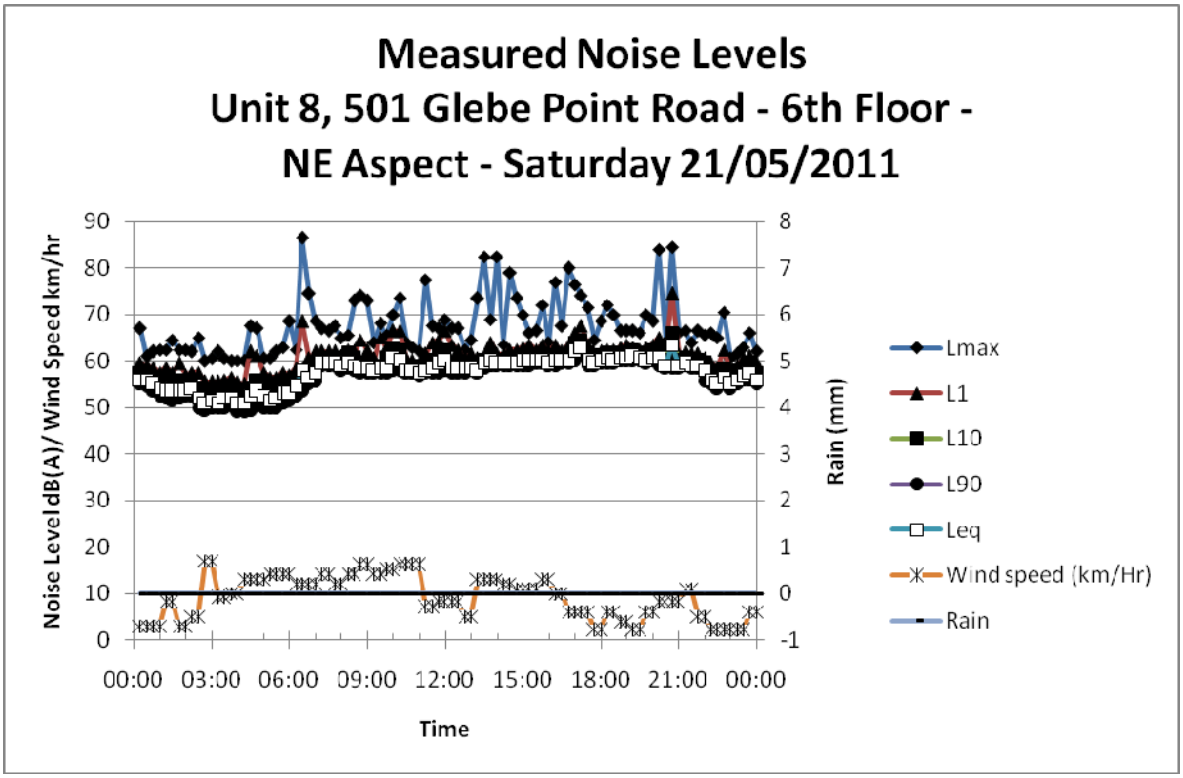
Measured Noise Levels
Unit 28, 501 Glebe Point Road - Ground Floor -
NW Aspect - Tuesday 24/05/2011

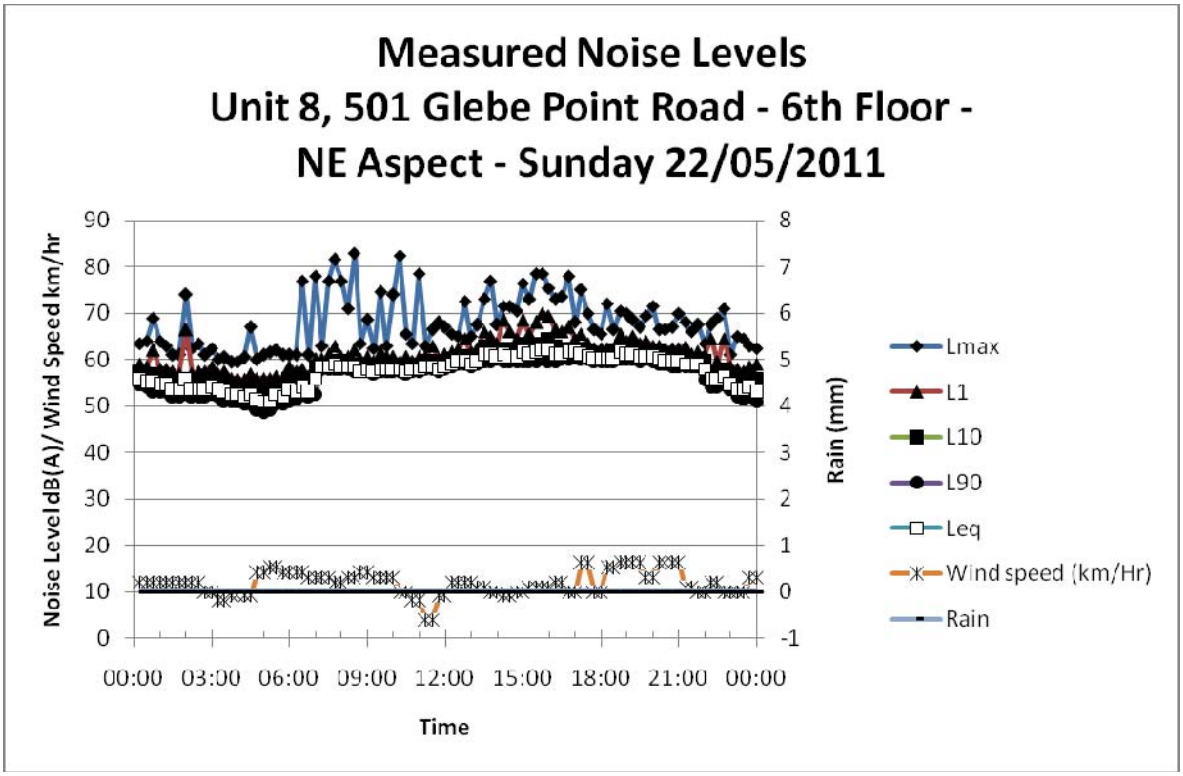



Measured Noise Levels
Unit 28, 501 Glebe Point Road - Ground Floor -
NW Aspect - Wednesday 25/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain

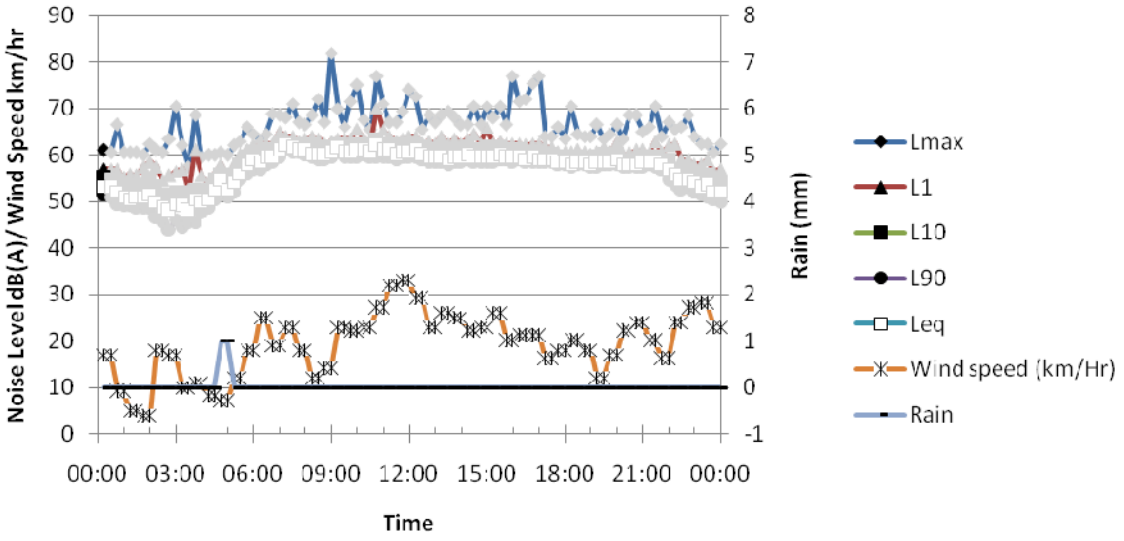

Measured Noise Levels
Unit 8, 501 Glebe Point Road - 6th Floor -
NE Aspect - Thursday 19/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain


Measured Noise Levels
Unit 8, 501 Glebe Point Road - 6th Floor -
NE Aspect - Friday 20/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain

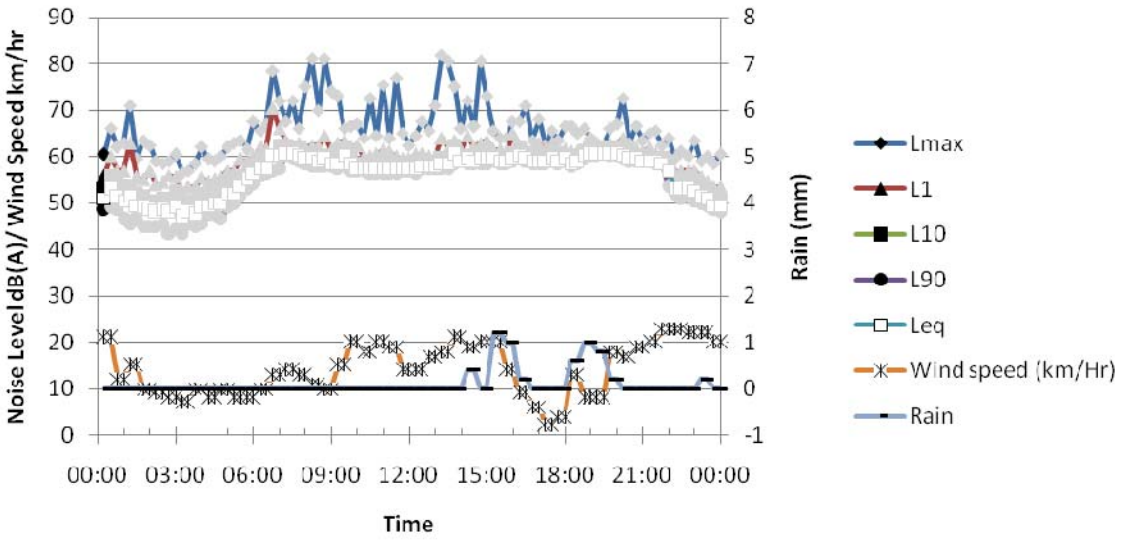

Measured Noise Levels
Unit 8, 501 Glebe Point Road - 6th Floor -
NE Aspect - Saturday 21/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain

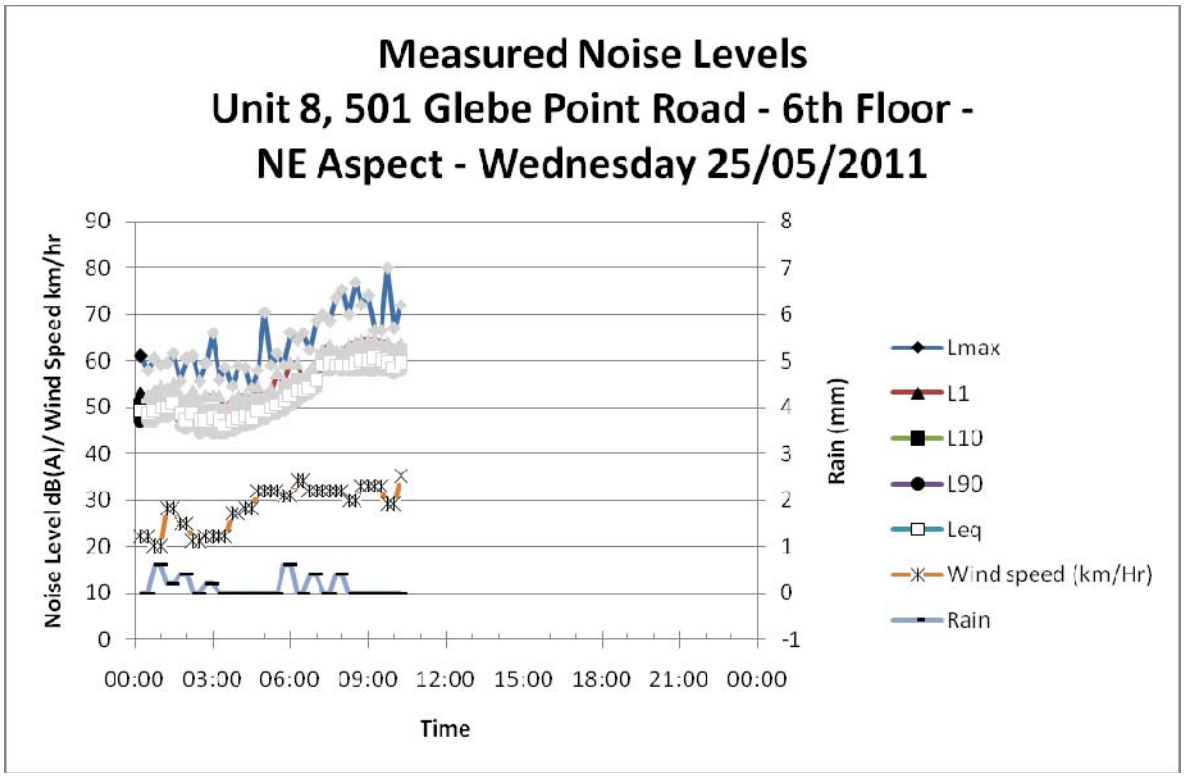

Measured Noise Levels
Unit 8, 501 Glebe Point Road - 6th Floor -
NE Aspect - Sunday 22/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain

Measured Noise Levels
Unit 8, 501 Glebe Point Road - 6th Floor -
NE Aspect - Monday 23/05/2011



Measured Noise Levels
Unit 8, 501 Glebe Point Road - 6th Floor -
NE Aspect - Tuesday 24/05/2011




Measured Noise Levels
Unit 8, 501 Glebe Point Road - 6th Floor -
NE Aspect - Wednesday 25/05/2011
Noise Level dB(A)/ Wind Speed km/hr
Rain (mm)
Time
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Lmax
L1
L10
L90
Leq
Wind speed (km/Hr)
Rain