CRGACOUSTICS

Suite 3, 2454 Gold Coast Highway
Mermaid Beach Qld 4218
Postal PO Box 441 Mermaid Beach Qld 4218
Telephone 07 5527 7333 **Facsimile** 07 5527 7555
Email jay@crg.net.au **www.crg.net.au**
CRG Acoustics Pty Ltd
ACN 151 847 255 ABN 11 708 556 182

Proposed Service Station
Tweed Coast Road, Kings Forest
(Lot 7 on DP875447)

ENVIRONMENTAL NOISE IMPACT REPORT

Prepared for

LEDA Developments Pty Ltd

21 September 2015
crgref: 12141 report rev.2

1.0 INTRODUCTION

This report is in response to a request from LEDA Developments Pty Ltd for an environmental noise impact assessment of a service station in Kings Forest. The report is intended to form part of an amendment to Project Approval MP08_0194.

In undertaking the above, noise monitoring was conducted for the site and through modelling; predictions of onsite commercial activity noise emissions were produced. Based upon the predicted noise impact levels, recommendations regarding acoustic treatment to the development have been provided.

2.0 DESCRIPTION OF THE DEVELOPMENT

The subject site is described as Lot 7 on DP875447 and is located along the Tweed Coast Road at Kings Forest. The parcel of land is bounded by Tweed Coast Road to the southwest, Cudgen Creek to the southeast and a rural residential property to the north. The topography of the site and surrounding land generally falls from the north to Cudgen Creek. For site location refer to Appendix A.

The proposal is to construct a service station with carwash and two drive-through facilities. The service station would have separate bowsers for cars and trucks. The proposed onsite building would comprise the service station retail section, six food tenancies and indoor seating areas. For development plans refer to Appendix B.

We are advised that the site intends to operate 24 hours, seven days per week.

Onsite activity noise emissions (i.e. vehicle movements, goods loading activity, deliveries, waste collection and mechanical plant) has the potential to impact upon surrounding noise sensitive receivers and has been assessed in accordance the *"NSW Industrial Noise Policy"* to ensure an acceptable noise amenity can be achieved.

The nearest noise sensitive receivers to the subject site include a residential dwelling to the north, a residential dwelling to the east and residential dwellings to the west across Tweed Coast Road.

It is noted that the there is an existing roadside acoustic barrier located between the subject site and the western offsite residential dwellings; which is located on the western side of the Tweed Coast Road corridor. The acoustic barrier will provide noise mitigation for some of the proposed onsite activities (i.e. car vacuum bay); however, due to a break in the barrier (for dwelling road access) not all onsite activities will be screened / mitigated by the acoustic barrier.

3.0 AMBIENT NOISE SURVEY

3.1 Instrumentation

The following equipment was used to record ambient noise levels at the subject site locale.

- Rion NC 73 Calibrator; and
- Rion NL 21 Environmental Noise Logger.

All instrumentation used in this assessment hold current calibration certificate from a certified NATA calibration laboratory.

3.2 Unattended Background Noise Monitoring Methodology

A logger was located towards the south-western end of the subject site. The microphone was in a free-field location, approximately 1.2m above ground and 25m from the nearest lane of Tweed Coast Road. Refer to Figure 2 in Appendix A for the logger location.

The logger was set to record noise statistics in 15 minute blocks continually between Thursday 4/09/2014 and Thursday 11/09/2014.

All measurements were conducted generally in accordance with Australian Standard AS 1055:1997 – *"Acoustics-Description and measurement of environmental noise*". The operation of the sound level logging equipment was field calibrated before and after the measurement session with no significant drift from the reference signal recorded.

Daily weather observations were obtained from the Bureau of Meteorology Coolangatta weather station. Weather conditions during the assessed monitoring period were generally fine with the exception of 11mm of rain on Tuesday 9/09/2014; with a temperature range between approximately 6 and 25ºC and relative humidity between 28 and 92%.

3.3 Unattended Background Noise Monitoring Results

Table 1 presents the measured noise levels at the logger location. Graphical presentation of the measured levels is in Appendix C. Rating Background Levels (RBLs) were calculated using the method provided in Appendix B of the *"NSW Industrial Noise Policy"*.

Background Noise	**Measured Level L_{A90} dB(A)**		
	Daytime (7am to 6pm)	**Evening (6pm to 10pm)**	**Night (10pm to 7am)**
Thursday 04/09/14	-	49	-
Friday 05/09/14	51	47	45
Saturday 06/09/14	51	47	45
Sunday 07/09/14	49	45	45
Monday 08/09/14	51	45	45
Tuesday 09/09/14	48	45	44
Wednesday 10/09/14	51	46	44
Thursday 11/09/14	49	46	44
RBLs	**51**	**46**	**45**

Table 1: Measured ambient noise levels at the logger location.

4.0 NOISE ASSESSMENT CRITERION

Noise associated with the commercial premises is regulated by the *"NSW Industrial Noise Policy"* and is as follows:

- Control of intrusive noise impacts – The limit criteria for this assessment is as follows:
  $L_{Aeq,\ 15\ min} \leq$ rating background level[1] + 5 dB;
  - Daytime (7 am – 6 pm Mon-Sat; 8 am – 6 pm Sun) 56 (RBL 51 + 5) dB(A) L_{eq};
  - Evening (6 pm – 10 pm) 51 (RBL 46 + 5) dB(A) L_{eq};
  - Night (remaining periods) 50 (RBL 45 + 5) dB(A) L_{eq}.

- Maintaining noise level amenity for residential premises. This is achieved by ensuring that the proposed development complies with the noise limit criteria set in Table 2.1 of the Policy. If we assume that the area is within a Suburban Area (as defined in the Policy), the following applies:

Indicative Noise Amenity Area	Time of Day	Recommended L_{Aeq} Noise Level, dB(A) *(see Note 8 in Section 2.2.1)*	
		Acceptable *(See Note 11)*	**Recommended Maximum** *(See Note 11)*
Suburban	Day	55	60
	Evening	45	50
	Night	40	45

Table 2: Amenity Criterion Prescribed in the New South Wales EPA "*Industrial Noise Policy"*.

The overall resulting criterion for the development is determined by comparing the amenity and intrusive noise criteria, and applying the lower of the two criteria. From the data and our calculations, the project noise assessment criterion is as follows:

- Daytime (7 am – 6 pm Mon-Sat; 8 am – 6 pm Sun) 55 dB(A) L_{eq};
- Evening (6 pm – 10 pm) 45 dB(A) L_{eq}; and
- Night (remaining periods) 40 dB(A) L_{eq}.

[1] The rating background level is the overall single figure background level representing each assessment period (day/evening/night over the whole monitoring period.

5.0 PREDICTED NOISE IMPACTS

All noise source levels used in the assessment have been collected from similar previous investigations. All L_{eq} noise levels have been corrected for impulsiveness or tonality as per Australian Standard AS 1055:1997 – *"Acoustics-Description and measurement of environmental noise*".

The following noise sources are typically associated with the operation of a service station development and have been assessed within this report:

Activity / Noise Source	**Event Noise Level, SPL L_{eq} dB(A)**
Car door closure	78* at 1m
Car bypass at 5km/hr	72 at 1m
Tyre pressure beeper	75** at 1m
Carwash: foam spray / low pressure rinse	66 at 3m
Carwash: high pressure rinse / water blaster	76 at 3m
Carwash: air blower	85 at 3m
Carwash: commercial vacuum unit	77** at 6m
Truck bypass	82 at 1m
Truck airbrake	97* at 1m
Goods delivery (manual unloading)	70 at 1m
Waste collection	90* at 1m
Air-conditioning plant x 4	67 at 2m
Refrigeration compressor x 3	65 at 2m
Air compressor	72** at 1m

Table 4: Typical noise source levels associated with a service station.

Short-term measured L_{Aeq} levels have been converted to $L_{Aeq\ 15min}$ levels by estimating a worst case number of events / duration for which each activity occurs during any 15 minute period. For continuous noise sources (i.e. mechanical plant), a 15 minute duration has been adopted. We note that final plant requirements are not known at this stage, therefore we have applied noise levels from other similar developments. Noise levels associated with mechanical plant are purely illustrative, and should be reviewed upon determination of types of plant.

The L_{eq} calculation sheets in Appendix C of this report present the assumed noise source event duration and expected number of events per assessment period (i.e. daytime, evening and night-time).

Based upon the location of service station activities in relation to the offsite noise sensitive receivers, we predict the following L_{eq} noise impact levels as presented in Table 5.

The predicted levels include the acoustic treatments detailed in Section 6 of this report. For point source calculation sheets refer to the Appendix C of this report.

Daytime Noise Source	Nearest Façade Predicted Noise Impact, SPL $L_{eq\ 15min}$ dB(A)
Dwelling Due North	
Car door closure car space	<10
Car door closure at bowser	<10
Car bypass at 5km/hr	27
Tyre pressure beeper	11
Carwash: foam spray / low pressure rinse	<10
Carwash: high pressure rinse / water blaster	22
Carwash: air blower	28
Carwash: commercial vacuum unit	38
Truck bypass	28
Truck airbrake	30
Goods delivery (manual unloading)	22
Waste collection	37
Air-conditioning plant x 4	22
Refrigeration compressor x 3	21
Air compressor	19
Combined daytime noise	**42**
Dwelling Due East	
Car door closure car space	<10
Car door closure at bowser	<10
Car bypass at 5km/hr	23
Tyre pressure beeper	<10
Carwash: foam spray / low pressure rinse	<10
Carwash: high pressure rinse / water blaster	16
Carwash: air blower	21
Carwash: commercial vacuum unit	31
Truck bypass	24
Truck airbrake	26
Goods delivery (manual unloading)	19
Waste collection	34
Air-conditioning plant x 4	19
Refrigeration compressor x 3	18
Air compressor	16
Combined daytime noise	**37**
Dwelling Due West across Tweed Coast Rd	
Car door closure car space	19
Car door closure at bowser	17
Car bypass at 5km/hr	38
Tyre pressure beeper	10
Carwash: foam spray / low pressure rinse	20
Carwash: high pressure rinse / water blaster	33
Carwash: air blower	39
Carwash: commercial vacuum unit	45
Truck bypass	39
Truck airbrake	32
Goods delivery (manual unloading)	30
Waste collection	45
Air-conditioning plant x 4	23
Refrigeration compressor x 3	22
Air compressor	20
Combined daytime noise	**49**
Daytime Criterion	**55**

Table 5 (P6-8): Predicted L_{eq} noise impact levels at offsite noise sensitive receivers.

Evening Noise Source	Nearest Façade Predicted Noise Impact, SPL $L_{eq\ 15min}$ dB(A)
Dwelling Due North	
Car door closure car space	<10
Car door closure at bowser	<10
Car bypass at 5km/hr	24
Tyre pressure beeper	<10
Carwash: foam spray / low pressure rinse	<10
Carwash: high pressure rinse / water blaster	22
Carwash: air blower	28
Carwash: commercial vacuum unit	38
Truck bypass	27
Truck airbrake	29
Goods delivery (manual unloading)	21
Air-conditioning plant x 4	22
Refrigeration compressor x 3	21
Air compressor	19
Combined evening noise	**39**
Dwelling Due East	
Car door closure car space	<10
Car door closure at bowser	<10
Car bypass at 5km/hr	20
Tyre pressure beeper	<10
Carwash: foam spray / low pressure rinse	<10
Carwash: high pressure rinse / water blaster	16
Carwash: air blower	21
Carwash: commercial vacuum unit	31
Truck bypass	22
Truck airbrake	24
Goods delivery (manual unloading)	19
Air-conditioning plant x 4	19
Refrigeration compressor x 3	18
Air compressor	16
Combined evening noise	**34**
Dwelling Due West across Tweed Coast Rd	
Car door closure car space	16
Car door closure at bowser	14
Car bypass at 5km/hr	35
Tyre pressure beeper	<10
Carwash: foam spray / low pressure rinse	20
Carwash: high pressure rinse / water blaster	33
Carwash: air blower	39
Carwash: commercial vacuum unit	45
Truck bypass	37
Truck airbrake	30
Goods delivery (manual unloading)	30
Air-conditioning plant x 4	23
Refrigeration compressor x 3	22
Air compressor	20
Combined evening noise	**47**
Evening Criterion	**45**

Table 5 (P6-8): Predicted L_{eq} noise impact levels at offsite noise sensitive receivers.

Night Noise Source	Nearest Façade Predicted Noise Impact, SPL $L_{eq\ 15min}$ dB(A)
Dwelling Due North	
Car door closure car space	<10
Car door closure at bowser	<10
Car bypass at 5km/hr	22
Tyre pressure beeper	<10
Carwash: foam spray / low pressure rinse	<10
Carwash: high pressure rinse / water blaster	22
Carwash: air blower	28
Truck bypass	21
Truck airbrake	25
Air-conditioning plant x 4	22
Refrigeration compressor x 3	21
Air compressor	19
Combined night-time noise	**32**
Dwelling Due East	
Car door closure car space	<10
Car door closure at bowser	<10
Car bypass at 5km/hr	18
Tyre pressure beeper	<10
Carwash: foam spray / low pressure rinse	<10
Carwash: high pressure rinse / water blaster	16
Carwash: air blower	21
Truck bypass	17
Truck airbrake	21
Air-conditioning plant x 4	19
Refrigeration compressor x 3	18
Air compressor	16
Combined night-time noise	**28**
Dwelling Due West across Tweed Coast Rd	
Car door closure car space	14
Car door closure at bowser	11
Car bypass at 5km/hr	32
Tyre pressure beeper	<10
Carwash: foam spray / low pressure rinse	20
Carwash: high pressure rinse / water blaster	33
Carwash: air blower	39
Truck bypass	32
Truck airbrake	27
Air-conditioning plant x 4	23
Refrigeration compressor x 3	22
Air compressor	20
Combined night-time noise	**41**
Night-time Criterion	**40**

Table 5 (P6-8): Predicted L_{eq} noise impact levels at offsite noise sensitive receivers.

6.0 RECOMMENDED ACOUSTIC TREATMENTS

Based upon the adopted noise source levels, the following acoustic treatments and management controls are recommended to mitigate onsite activity noise emissions:

- The Service Station and Carwash operate 24 hours per day.
- The car vacuums be limited to 7am and 10pm, or a further assessment be undertaken to review restriction of use once actual plant is selected.
- Goods delivery (including fuel delivery) be limited to 7am and 10pm.
- Waste collection be limited to 7am and 6pm Monday to Saturday.
- The carwash is to be constructed with solid walls and a solid roof. The carwash is to also have the installation of automatic doors. These doors should provide more than 15 dB noise reduction.
- Drainage grates over trafficable areas be well fixed to avoid rattling when a vehicle passes over the grate.
- Mechanical plant be designed and installed to comply with the noise criterion presented in Section 4. As final plant requirements are not known at this stage**,** additional acoustic assessment/s should be undertaken prior to Commencement of Use to confirm acceptable noise levels have been achieved; and be conditioned within the Development Approval. Based upon the assumed plant noise source levels, acoustic screening to the western dwellings is likely to be required such as locating plant on the eastern side of the service station building envelope; or incorporating acoustic barriers / enclosures at roof-top plant.

7.0 DISCUSSION

The subject site is described as Lot 7 on DP875447 and is bounded by Tweed Coast Road to the southwest, Cudgen Creek to the southeast and a rural residential property to the north. The proposal is to construct a service station with carwash and two drive-through facilities.

We are advised that the site intends to operate 24 hours, seven days per week.

Based upon the recommended acoustic treatments and management controls, L_{eq} noise impact levels at the nearest offsite noise sensitive receivers are predicted below the daytime external noise criterion; and within 2 dB of the evening and night-time external noise criterion.

As the average person cannot generally detect a 3 dB variation in sound pressure level, a 2 dB rise is unlikely to be detectable and is typically considered and acceptable outcome.

Based upon the predicted noise impacts we have recommended that the hours of operation for the car vacuums be limited to between 7am and 10pm, with goods delivery (including fuel delivery) also limited to 7am to 10pm to minimise noise events during the night-time period. The restriction to hours of use of the vacuums can be reassessed once the actual plant type is determined, although it is noted that some of the noise from vacuum use is from the actual nozzle itself, and not the suction motor plant.

To control noise emissions from the service station development we have also recommended best practice controls such as limiting waste collection to the daytime period.

Given that the carwash is located at the northwest corner of the development site, closest to the western offsite noise sensitive receivers, automatic acoustic doors have been recommended for the carwash (to achieve a minimum noise reduction of 15 dB) and solid walls and a solid roof.

It is also noted that the dwellings to the north and east are greater than 200m from the subject site; therefore, land buffer will provide significant attenuation of onsite noise emissions. For the western offsite dwellings, Tweed Coast Road separates the site from the dwellings; therefore, traffic noise emissions will likely produce higher noise impacts at the western dwellings than the subject site. As the local area continues to be developed, road traffic on Tweed Coast Road noise will become a more significant noise source, providing higher ambient background noise levels; and resulting is lesser perceived noise impacts from the proposed service station and carwash.

We have also provided an indication of potential noise impact levels and acoustical treatment requirements of likely onsite mechanical plant; although the levels are merely a guide as no plant selections have yet been completed. For this reason, additional acoustic assessment/s should be undertaken prior to Commencement of Use (by each of the onsite tenancies) to confirm acceptable noise levels have been achieved; and be conditioned within the Development Approval.

8.0 CONCLUSIONS

This report is in response to a request from LEDA Developments Pty Ltd for an environmental noise impact assessment of a service station in Kings Forest.

Overall, the proposed development will generally be within acceptable levels of the adopted criterion, subject to the acoustic treatments recommended in Section 6 being integrated into the design, construction and operation of the service station and carwash.

Report Reviewed By:

JAY CARTER BSc
Director

Report Compiled by:

Matthew Lopez BEng
Consultant

APPENDIX A

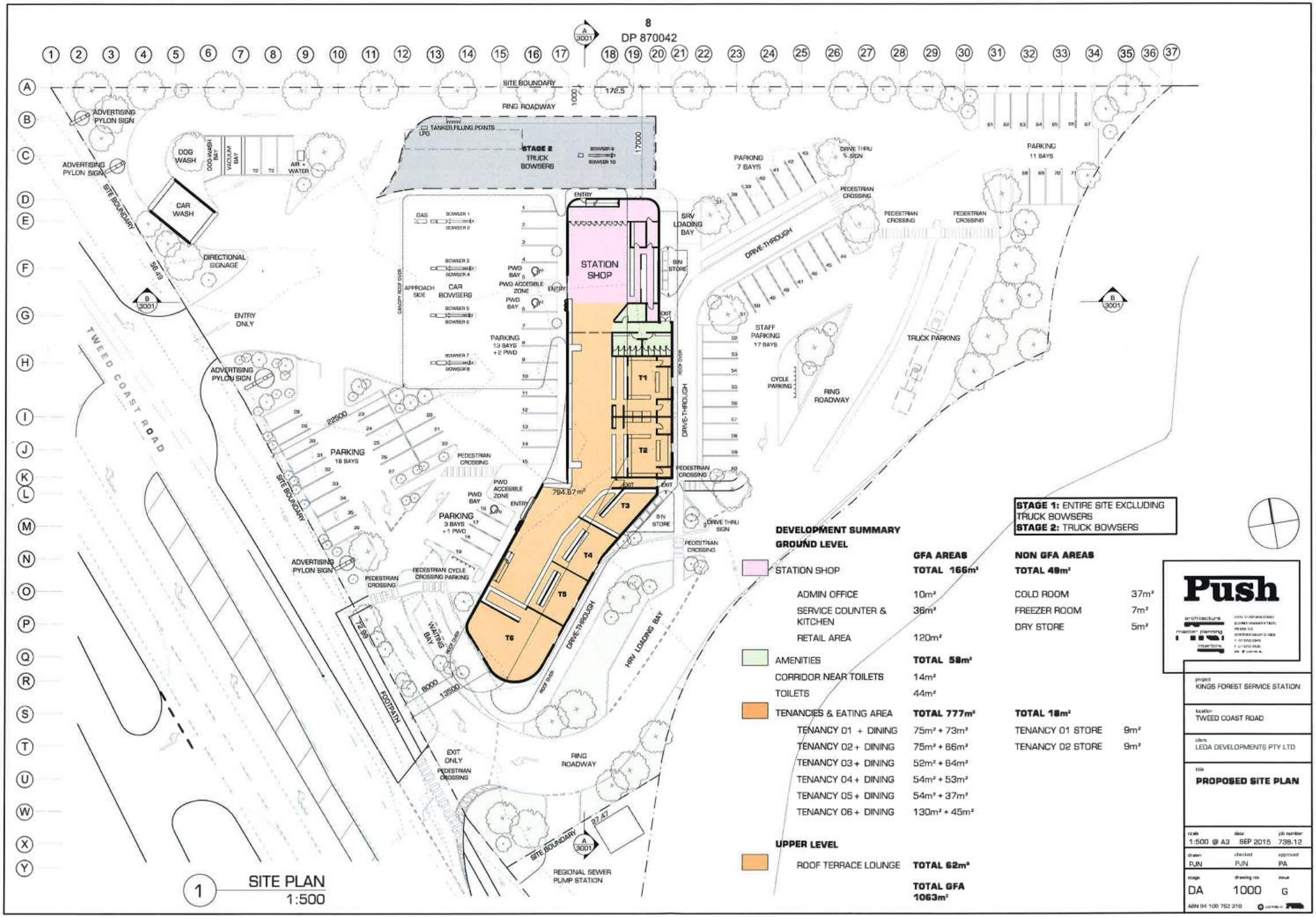
Subject Site and Logger Location

Figure No. 1: Subject Site Location (NSW Government's Sixmaps Website https://maps.six.nsw.gov.au/).

Figure No. 2: Subject Site and Logger Location (NSW Government's Sixmaps Website https://maps.six.nsw.gov.au/).

APPENDIX B

Development Plans



1 SITE PLAN 1:500

STAGE 1: ENTIRE SITE EXCLUDING TRUCK BOWSERS
STAGE 2: TRUCK BOWSERS

DEVELOPMENT SUMMARY

GROUND LEVEL

	GFA AREAS	NON GFA AREAS	
STATION SHOP	**TOTAL 166m²**	**TOTAL 49m²**	
ADMIN OFFICE	10m²	COLD ROOM	37m²
SERVICE COUNTER & KITCHEN	36m²	FREEZER ROOM	7m²
RETAIL AREA	120m²	DRY STORE	5m²
AMENITIES	**TOTAL 58m²**		
CORRIDOR NEAR TOILETS	14m²		
TOILETS	44m²		
TENANCIES & EATING AREA	**TOTAL 777m²**	**TOTAL 18m²**	
TENANCY 01 + DINING	75m² + 73m²	TENANCY 01 STORE	9m²
TENANCY 02 + DINING	75m² + 66m²	TENANCY 02 STORE	9m²
TENANCY 03 + DINING	52m² + 64m²		
TENANCY 04 + DINING	54m² + 53m²		
TENANCY 05 + DINING	54m² + 37m²		
TENANCY 06 + DINING	130m² + 45m²		

UPPER LEVEL

ROOF TERRACE LOUNGE	**TOTAL 62m²**

TOTAL GFA 1063m²

Push
architecture
master planning
interiors

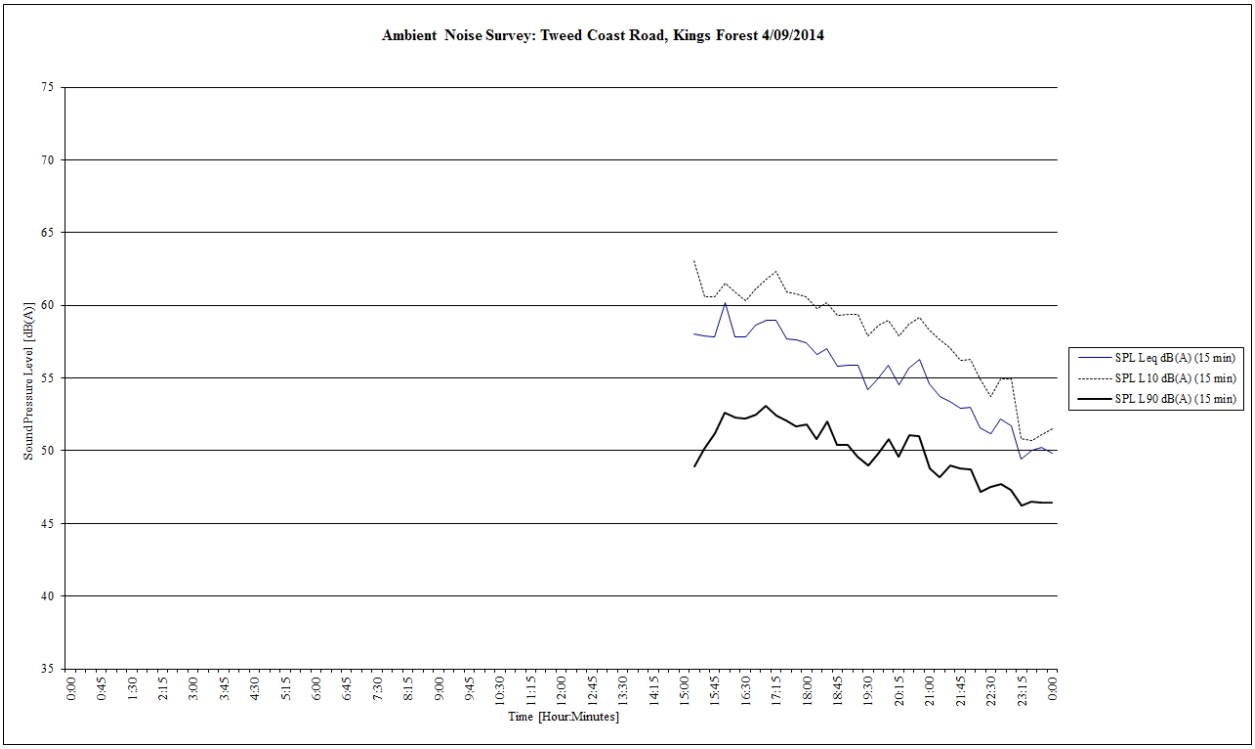
project: KINGS FOREST SERVICE STATION
location: TWEED COAST ROAD
client: LEDA DEVELOPMENTS PTY LTD
title: **PROPOSED SITE PLAN**

scale	date	job number
1:500 @ A3	SEP 2015	738.12
drawn: PJN	checked: PJN	approved: PA
stage: DA	drawing no: 1000	issue: G

ABN 94 106 752 310

APPENDIX C

Measurement Results and Calculations / Predictions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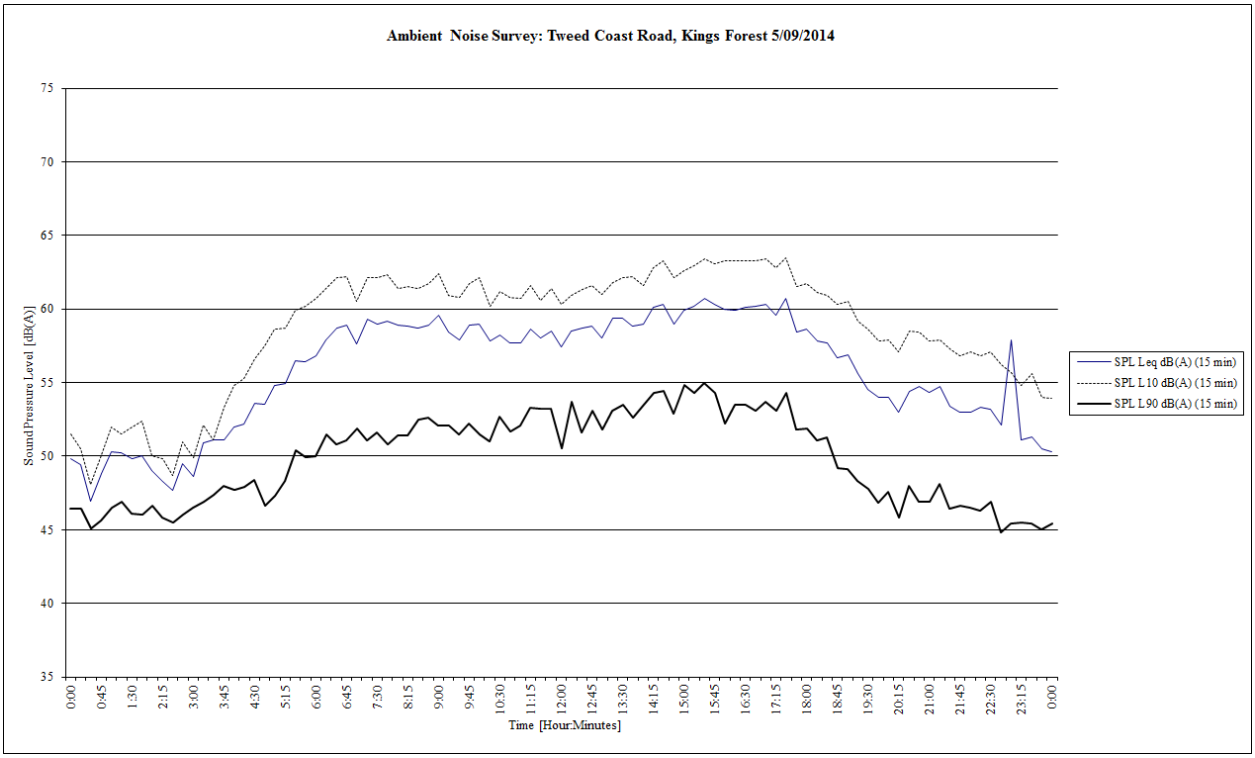
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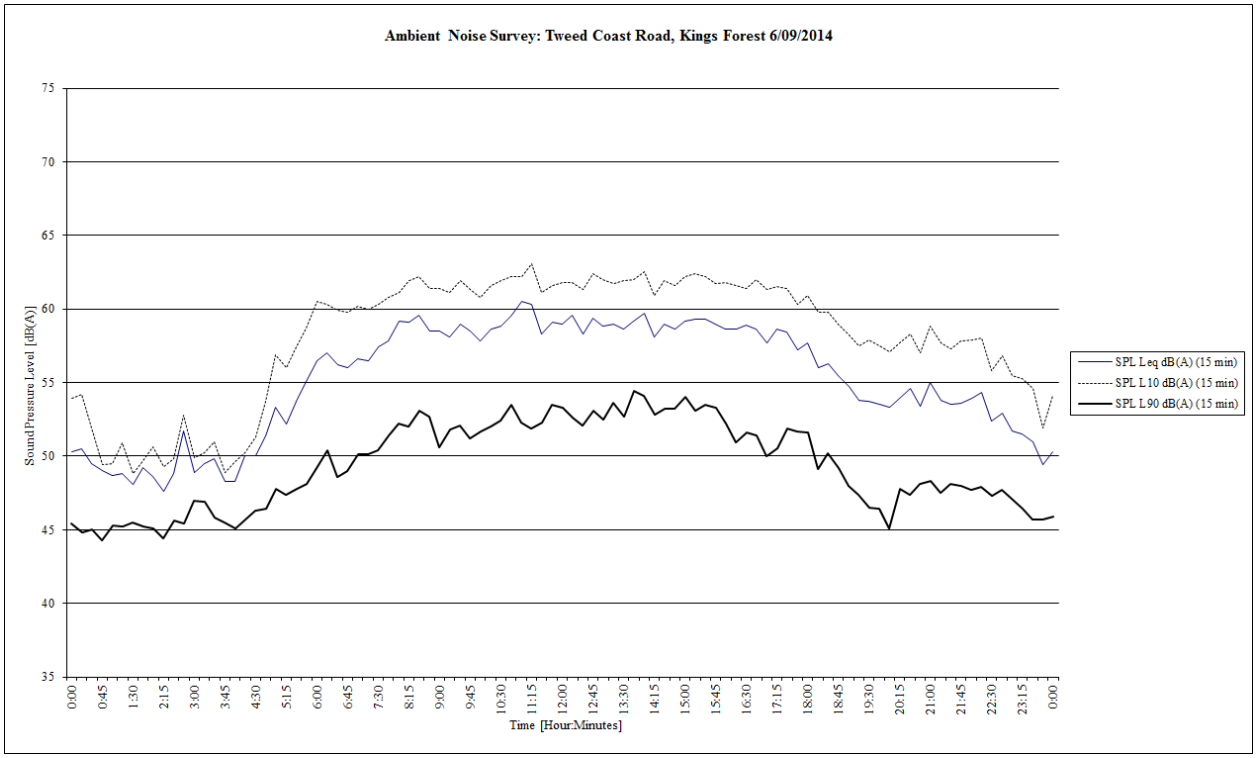
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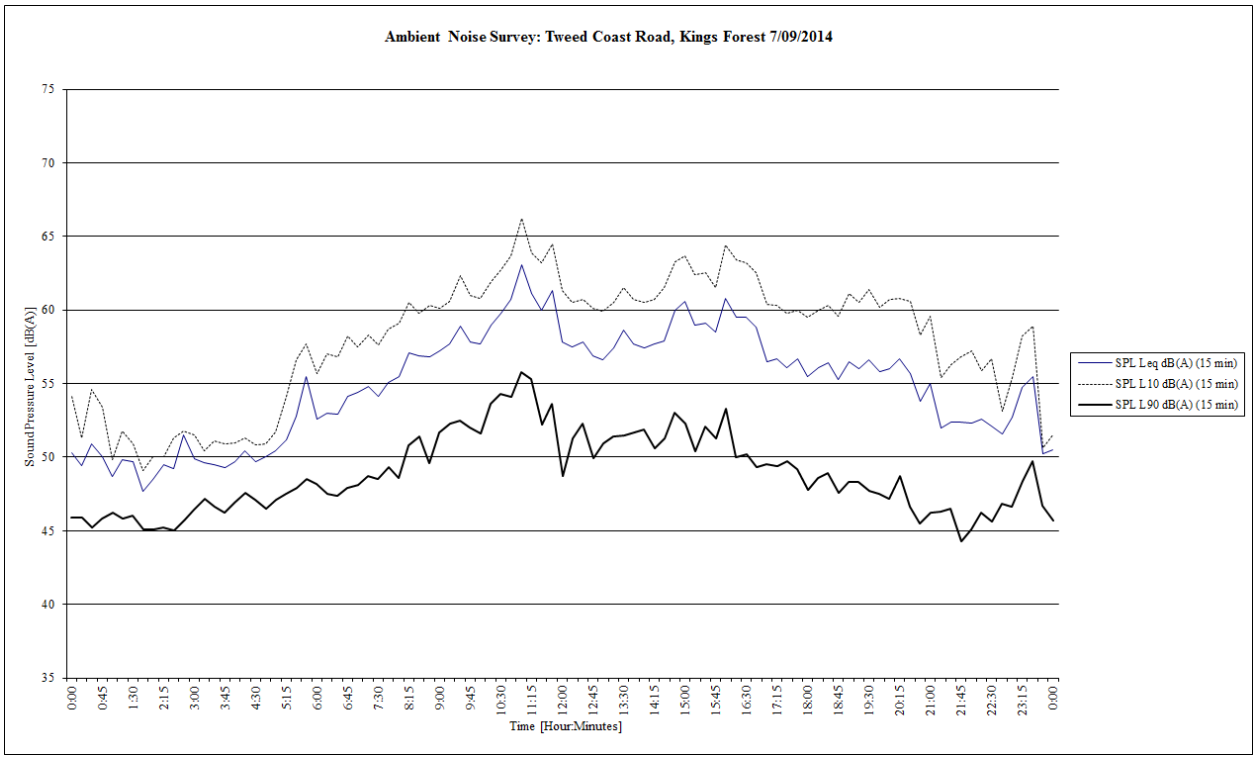
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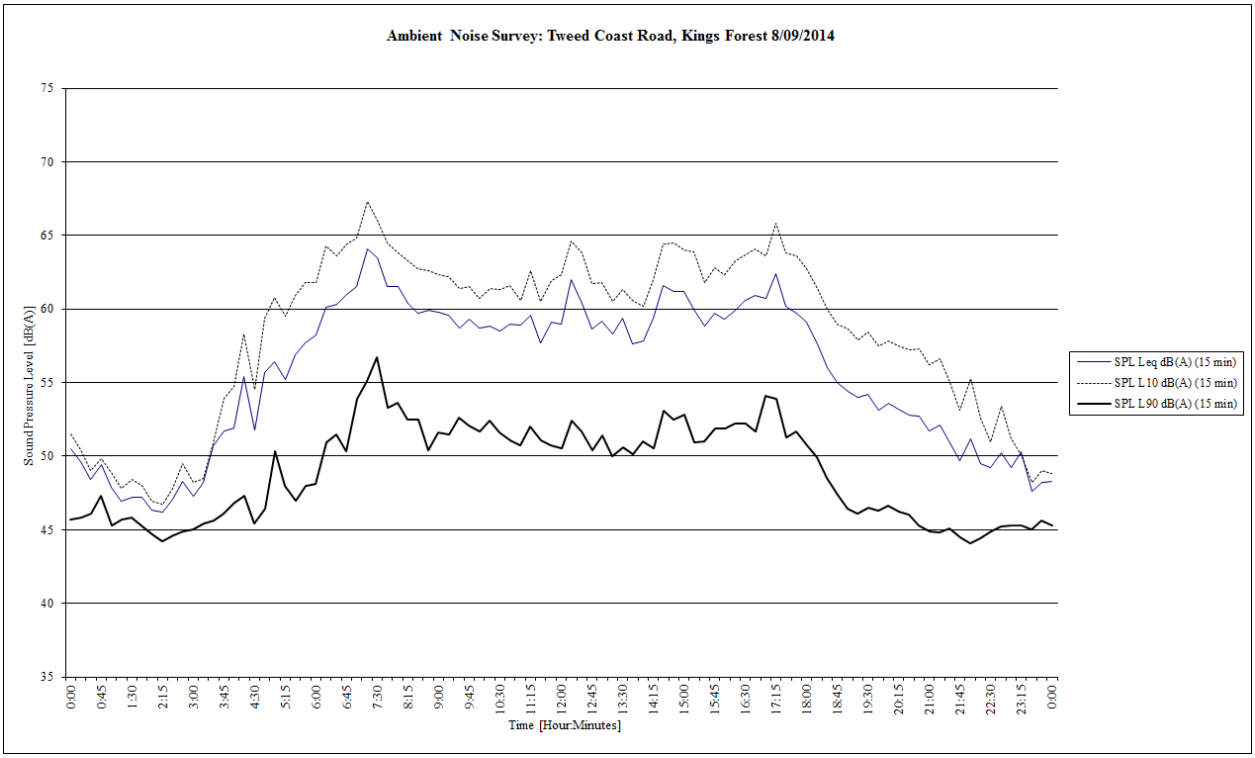
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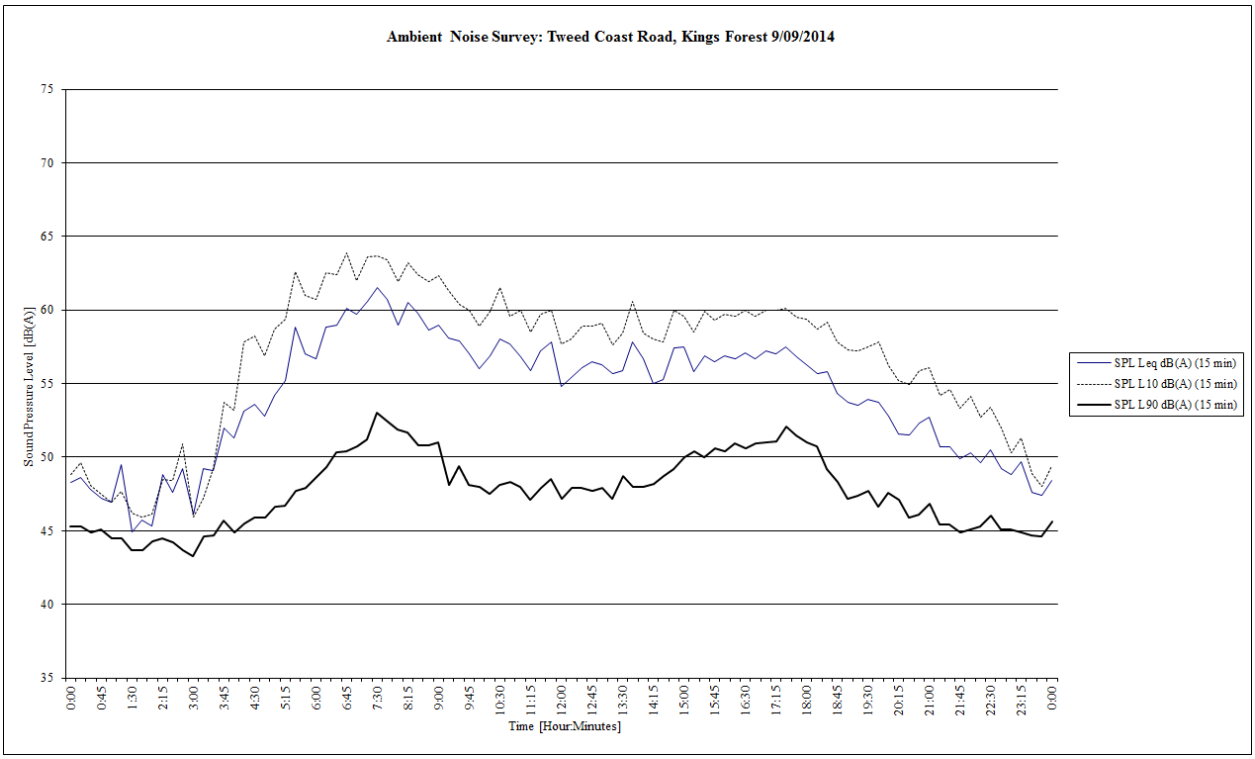
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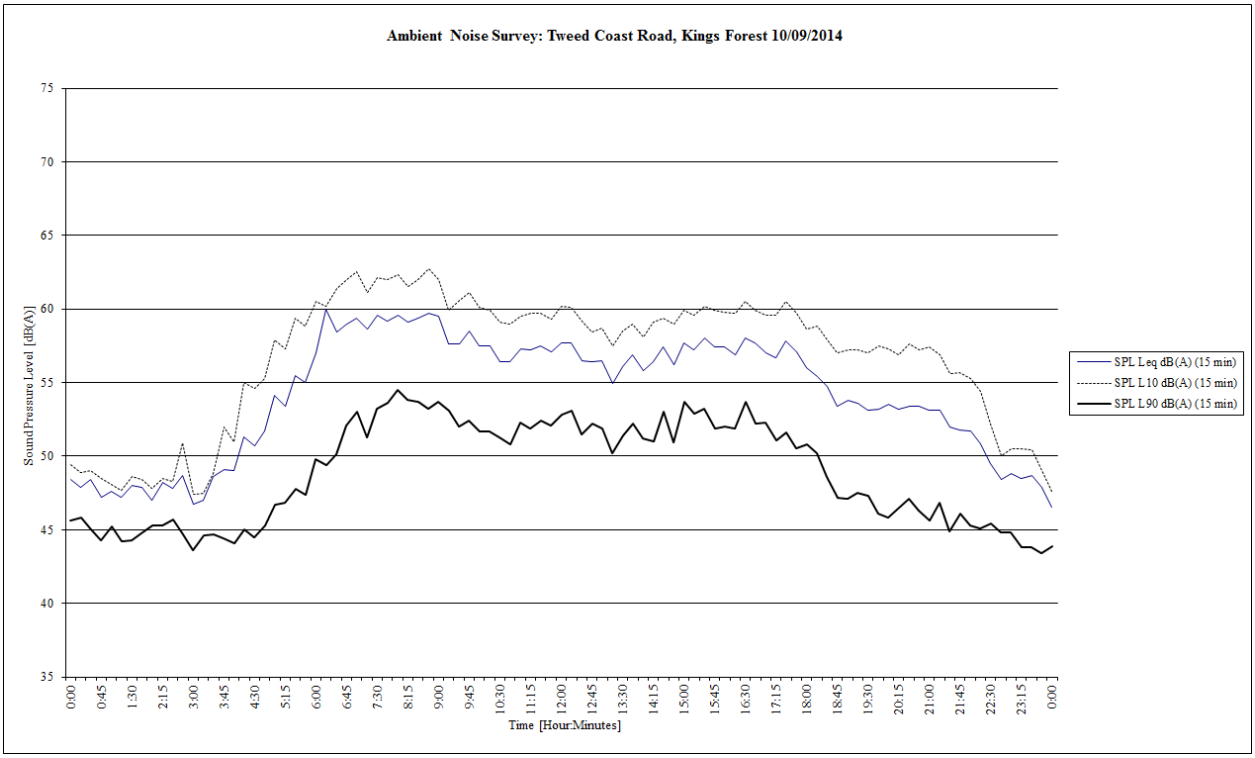
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Tweed Coast Road, Kings Forest 10/09/2014
Sound Pressure Level [dB(A)]
75
70
65
60
55
50
45
40
35
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
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7:30
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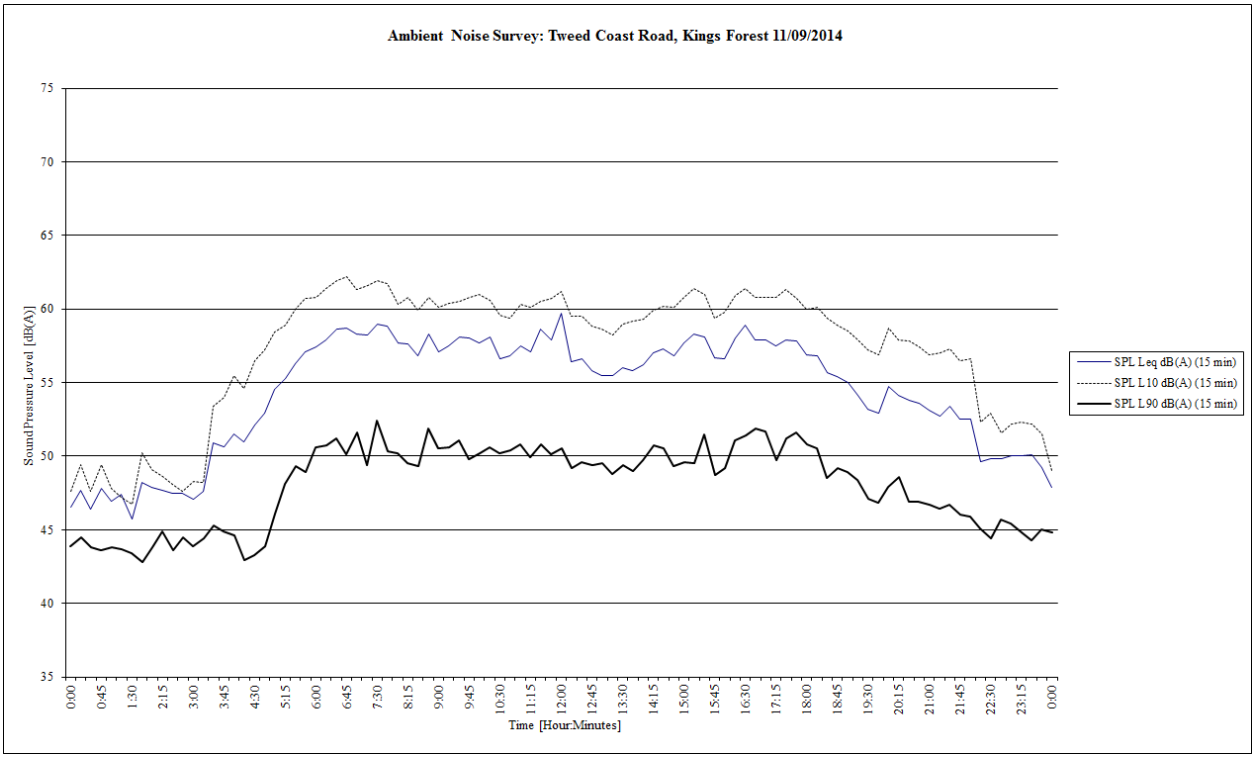
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Tweed Coast Road, Kings Forest 11/09/2014
Sound Pressure Level [dB(A)]
75
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0:45
1:30
2:15
3:00
3:45
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16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)

DAYTIME											
Leq OFFSITE COMMERCIAL ACTIVITIES IMPACTING:											
Dwelling Due North				**Dwelling Due East**				**Dwellings Due West**			
Car door closure car space	78	dB(A) @ 1m	#	Car door closure car space	78	dB(A) @ 1m	#	Car door closure car space	78	dB(A) @ 1m
Single event duration	0.052	seconds		Single event duration	0.052	seconds		Single event duration	0.052	seconds
Number of events in 15 mins	50	events		Number of events in 15 mins	50	events		Number of events in 15 mins	50	events
Worst case duration in 15 mins	0.043	mins		Worst case duration in 15 mins	0.043	mins		Worst case duration in 15 mins	0.043	mins
15 min Leq	52.6	dB(A) @ 1m		15 min Leq	52.6	dB(A) @ 1m		15 min Leq	52.6	dB(A) @ 1m
Distance to receiver	217	m		Distance to receiver	319	m		Distance to receiver	63	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-46.7	dB(A)		Distance attenuation	-50.1	dB(A)		Distance attenuation	-36.0	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	8	dB(A)	7	Impact at Façade	5	dB(A)	3	Impact at Façade	19	dB(A)
Car door closure at bowser	78	dB(A) @ 1m	#	Car door closure at bowser	78	dB(A) @ 1m	#	Car door closure at bowser	78	dB(A) @ 1m
Single event duration	0.052	seconds		Single event duration	0.052	seconds		Single event duration	0.052	seconds
Number of events in 15 mins	50	events		Number of events in 15 mins	50	events		Number of events in 15 mins	50	events
Worst case duration in 15 mins	0.043	mins		Worst case duration in 15 mins	0.043	mins		Worst case duration in 15 mins	0.043	mins
15 min Leq	52.6	dB(A) @ 1m		15 min Leq	52.6	dB(A) @ 1m		15 min Leq	52.6	dB(A) @ 1m
Distance to receiver	238	m		Distance to receiver	385	m		Distance to receiver	85	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-47.5	dB(A)		Distance attenuation	-51.7	dB(A)		Distance attenuation	-38.6	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	8	dB(A)	6	Impact at Façade	3	dB(A)	2	Impact at Façade	17	dB(A)
Car bypass @ 5km/hr	72	dB(A) @ 1m	#	Car bypass @ 5km/hr	72	dB(A) @ 1m	#	Car bypass @ 5km/hr	72	dB(A) @ 1m
Single event duration	7	seconds		Single event duration	7	seconds		Single event duration	7	seconds
Number of events in 15 mins	100	events		Number of events in 15 mins	100	events		Number of events in 15 mins	100	events
Worst case duration in 15 mins	11.67	mins		Worst case duration in 15 mins	11.67	mins		Worst case duration in 15 mins	11.67	mins
15 min Leq	70.9	dB(A) @ 1m		15 min Leq	70.9	dB(A) @ 1m		15 min Leq	70.9	dB(A) @ 1m
Distance to receiver	210	m		Distance to receiver	325	m		Distance to receiver	62	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-46.4	dB(A)		Distance attenuation	-50.2	dB(A)		Distance attenuation	-35.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	27	dB(A)	#	Impact at Façade	23	dB(A)	#	Impact at Façade	38	dB(A)
Tyre pressure beeper	75	dB(A) @ 1m	#	Tyre pressure beeper	75	dB(A) @ 1m	#	Tyre pressure beeper	75	dB(A) @ 1m
Single event duration	1	seconds		Single event duration	1	seconds		Single event duration	1	seconds
Number of events in 15 mins	10	events		Number of events in 15 mins	10	events		Number of events in 15 mins	10	events
Worst case duration in 15 mins	0.167	mins		Worst case duration in 15 mins	0.167	mins		Worst case duration in 15 mins	0.167	mins
15 min Leq	55.5	dB(A) @ 1m		15 min Leq	55.5	dB(A) @ 1m		15 min Leq	55.5	dB(A) @ 1m
Distance to receiver	220	m		Distance to receiver	435	m		Distance to receiver	80	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	-10	dB(A)
Distance attenuation	-46.8	dB(A)		Distance attenuation	-52.8	dB(A)		Distance attenuation	-38.1	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	11	dB(A)	#	Impact at Façade	5	dB(A)	3	Impact at Façade	10	dB(A)
Carwash foam spray	66	dB(A) @ 3m	#	Carwash foam spray	66	dB(A) @ 3m	#	Carwash foam spray	66	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	59.0	dB(A) @ 1m		15 min Leq	59.0	dB(A) @ 1m		15 min Leq	59.0	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	9	dB(A)	8	Impact at Façade	3	dB(A)	2	Impact at Façade	20	dB(A)
Carwash high pressure rinse	76	dB(A) @ 3m	#	Carwash high pressure rinse	76	dB(A) @ 3m	#	Carwash high pressure rinse	76	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events
Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins
15 min Leq	72.0	dB(A) @ 1m		15 min Leq	72.0	dB(A) @ 1m		15 min Leq	72.0	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	22	dB(A)	#	Impact at Façade	16	dB(A)	#	Impact at Façade	33	dB(A)
Carwash air blower	85	dB(A) @ 3m	#	Carwash air blower	85	dB(A) @ 3m	#	Carwash air blower	85	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	77.5	dB(A) @ 1m		15 min Leq	77.5	dB(A) @ 1m		15 min Leq	77.5	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	28	dB(A)	#	Impact at Façade	21	dB(A)	#	Impact at Façade	39	dB(A)

DAYTIME

Leq OFFSITE COMMERCIAL ACTIVITIES IMPACTING:

Dwelling Due North				**Dwelling Due East**				**Dwellings Due West**		
Carwash vaccum unit	77	dB(A) @ 6m	#	Carwash vaccum unit	77	dB(A) @ 6m	#	Carwash vaccum unit	77	dB(A) @ 6m
Single event duration	300	seconds		Single event duration	300	seconds		Single event duration	300	seconds
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events
Worst case duration in 15 mins	10	mins		Worst case duration in 15 mins	10	mins		Worst case duration in 15 mins	10	mins
15 min Leq	75.2	dB(A) @ 1m		15 min Leq	75.2	dB(A) @ 1m		15 min Leq	75.2	dB(A) @ 1m
Distance to receiver	217	m		Distance to receiver	445	m		Distance to receiver	73	m
Inside to outside car attenuation	-9	dB(A)		Inside to outside car attenuation	-9	dB(A)		Inside to outside car attenuation and ba	-11	dB(A)
Distance attenuation	-31.2	dB(A)		Distance attenuation	-37.4	dB(A)		Distance attenuation	-21.7	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	38	dB(A)	#	Impact at Façade	31	dB(A)	#	Impact at Façade	45	dB(A)
Truck bypass	82	dB(A) @ 1m	#	Truck bypass	82	dB(A) @ 1m	#	Truck bypass	82	dB(A) @ 1m
Single event duration	10	seconds		Single event duration	10	seconds		Single event duration	10	seconds
Number of events in 15 mins	10	events		Number of events in 15 mins	10	events		Number of events in 15 mins	10	events
Worst case duration in 15 mins	1.667	mins		Worst case duration in 15 mins	1.667	mins		Worst case duration in 15 mins	1.667	mins
15 min Leq	72.5	dB(A) @ 1m		15 min Leq	72.5	dB(A) @ 1m		15 min Leq	72.5	dB(A) @ 1m
Distance to receiver	225	m		Distance to receiver	340	m		Distance to receiver	62	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-47.0	dB(A)		Distance attenuation	-50.6	dB(A)		Distance attenuation	-35.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	28	dB(A)	#	Impact at Façade	24	dB(A)	#	Impact at Façade	39	dB(A)
Truck airbrakes	97	dB(A) @ 1m	#	Truck airbrakes	97	dB(A) @ 1m	#	Truck airbrakes	97	dB(A) @ 1m
Single event duration	0.5	seconds		Single event duration	0.5	seconds		Single event duration	0.5	seconds
Number of events in 15 mins	10	events		Number of events in 15 mins	10	events		Number of events in 15 mins	10	events
Worst case duration in 15 mins	0.083	mins		Worst case duration in 15 mins	0.083	mins		Worst case duration in 15 mins	0.083	mins
15 min Leq	74.4	dB(A) @ 1m		15 min Leq	74.4	dB(A) @ 1m		15 min Leq	74.4	dB(A) @ 1m
Distance to receiver	225	m		Distance to receiver	340	m		Distance to receiver	70	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	-8	dB(A)
Distance attenuation	-47.0	dB(A)		Distance attenuation	-50.6	dB(A)		Distance attenuation	-36.9	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	30	dB(A)	#	Impact at Façade	26	dB(A)	#	Impact at Façade	32	dB(A)
Goods delivery	70	dB(A) @ 1m	#	Goods delivery	70	dB(A) @ 1m	#	Goods delivery	70	dB(A) @ 1m
Single event duration	600	seconds		Single event duration	600	seconds		Single event duration	600	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	10	mins		Worst case duration in 15 mins	10	mins		Worst case duration in 15 mins	10	mins
15 min Leq	68.2	dB(A) @ 1m		15 min Leq	68.2	dB(A) @ 1m		15 min Leq	68.2	dB(A) @ 1m
Distance to receiver	260	m		Distance to receiver	380	m		Distance to receiver	110	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-48.3	dB(A)		Distance attenuation	-51.6	dB(A)		Distance attenuation	-40.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	22	dB(A)	#	Impact at Façade	19	dB(A)	#	Impact at Façade	30	dB(A)
Waste collection	90	dB(A) @ 1m	#	Waste collection	90	dB(A) @ 1m	#	Waste collection	90	dB(A) @ 1m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	83.0	dB(A) @ 1m		15 min Leq	83.0	dB(A) @ 1m		15 min Leq	83.0	dB(A) @ 1m
Distance to receiver	260	m		Distance to receiver	380	m		Distance to receiver	110	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-48.3	dB(A)		Distance attenuation	-51.6	dB(A)		Distance attenuation	-40.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	37	dB(A)	#	Impact at Façade	34	dB(A)	#	Impact at Façade	45	dB(A)
A/C plant x 4	67	dB(A) @ 2m	#	A/C plant x 4	67	dB(A) @ 2m	#	A/C plant x 4	67	dB(A) @ 2m
Single event duration	300	seconds		Single event duration	300	seconds		Single event duration	300	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	5	mins		Worst case duration in 15 mins	5	mins		Worst case duration in 15 mins	5	mins
15 min Leq	62.2	dB(A) @ 2m		15 min Leq	62.2	dB(A) @ 2m		15 min Leq	62.2	dB(A) @ 2m
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)
Distance attenuation	-42.3	dB(A)		Distance attenuation	-45.8	dB(A)		Distance attenuation	-33.5	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	22	dB(A)	#	Impact at Façade	19	dB(A)	#	Impact at Façade	23	dB(A)
Refrigeration plant x 3	65	dB(A) @ 2m	#	Refrigeration plant x 3	65	dB(A) @ 2m	#	Refrigeration plant x 3	65	dB(A) @ 2m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events
Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins
15 min Leq	61.0	dB(A) @ 2m		15 min Leq	61.0	dB(A) @ 2m		15 min Leq	61.0	dB(A) @ 2m
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)
Distance attenuation	-42.3	dB(A)		Distance attenuation	-45.8	dB(A)		Distance attenuation	-33.5	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	21	dB(A)	#	Impact at Façade	18	dB(A)	#	Impact at Façade	22	dB(A)
Air compressor	72	dB(A) @ 1m	#	Air compressor	72	dB(A) @ 1m	#	Air compressor	72	dB(A) @ 1m
Single event duration	60	seconds		Single event duration	60	seconds		Single event duration	60	seconds
Number of events in 15 mins	3	events		Number of events in 15 mins	3	events		Number of events in 15 mins	3	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	65.0	dB(A) @ 1m		15 min Leq	65.0	dB(A) @ 1m		15 min Leq	65.0	dB(A) @ 1m
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)
Distance attenuation	-48.3	dB(A)		Distance attenuation	-51.8	dB(A)		Distance attenuation	-39.6	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	19	dB(A)	#	Impact at Façade	16	dB(A)	#	Impact at Façade	20	dB(A)
Combined Daytime façade impact	41.6	dB(A)		Combined Daytime façade impact	37.1	dB(A)		Combined Daytime façade impact	49.4	dB(A)

EVENING

Leq OFFSITE COMMERCIAL ACTIVITIES IMPACTING:

Dwelling Due North				**Dwelling Due East**				**Dwellings Due West**		
Car door closure car space	78	dB(A) @ 1m	#	Car door closure car space	78	dB(A) @ 1m	#	Car door closure car space	78	dB(A) @ 1m
Single event duration	0.052	seconds		Single event duration	0.052	seconds		Single event duration	0.052	seconds
Number of events in 15 mins	25	events		Number of events in 15 mins	25	events		Number of events in 15 mins	25	events
Worst case duration in 15 mins	0.022	mins		Worst case duration in 15 mins	0.022	mins		Worst case duration in 15 mins	0.022	mins
15 min Leq	49.6	dB(A) @ 1m		15 min Leq	49.6	dB(A) @ 1m		15 min Leq	49.6	dB(A) @ 1m
Distance to receiver	217	m		Distance to receiver	319	m		Distance to receiver	63	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-46.7	dB(A)		Distance attenuation	-50.1	dB(A)		Distance attenuation	-36.0	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	5	dB(A)	3	Impact at Façade	2	dB(A)	2	Impact at Façade	16	dB(A)
Car door closure at bowser	78	dB(A) @ 1m	#	Car door closure at bowser	78	dB(A) @ 1m	#	Car door closure at bowser	78	dB(A) @ 1m
Single event duration	0.052	seconds		Single event duration	0.052	seconds		Single event duration	0.052	seconds
Number of events in 15 mins	25	events		Number of events in 15 mins	25	events		Number of events in 15 mins	25	events
Worst case duration in 15 mins	0.022	mins		Worst case duration in 15 mins	0.022	mins		Worst case duration in 15 mins	0.022	mins
15 min Leq	49.6	dB(A) @ 1m		15 min Leq	49.6	dB(A) @ 1m		15 min Leq	49.6	dB(A) @ 1m
Distance to receiver	238	m		Distance to receiver	385	m		Distance to receiver	85	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-47.5	dB(A)		Distance attenuation	-51.7	dB(A)		Distance attenuation	-38.6	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	5	dB(A)	3	Impact at Façade	0	dB(A)	1	Impact at Façade	14	dB(A)
Car bypass @ 5km/hr	72	dB(A) @ 1m	#	Car bypass @ 5km/hr	72	dB(A) @ 1m	#	Car bypass @ 5km/hr	72	dB(A) @ 1m
Single event duration	7	seconds		Single event duration	7	seconds		Single event duration	7	seconds
Number of events in 15 mins	50	events		Number of events in 15 mins	50	events		Number of events in 15 mins	50	events
Worst case duration in 15 mins	5.833	mins		Worst case duration in 15 mins	5.833	mins		Worst case duration in 15 mins	5.833	mins
15 min Leq	67.9	dB(A) @ 1m		15 min Leq	67.9	dB(A) @ 1m		15 min Leq	67.9	dB(A) @ 1m
Distance to receiver	210	m		Distance to receiver	325	m		Distance to receiver	62	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-46.4	dB(A)		Distance attenuation	-50.2	dB(A)		Distance attenuation	-35.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	24	dB(A)	#	Impact at Façade	20	dB(A)	#	Impact at Façade	35	dB(A)
Tyre pressure beeper	75	dB(A) @ 1m	#	Tyre pressure beeper	75	dB(A) @ 1m	#	Tyre pressure beeper	75	dB(A) @ 1m
Single event duration	1	seconds		Single event duration	1	seconds		Single event duration	1	seconds
Number of events in 15 mins	5	events		Number of events in 15 mins	5	events		Number of events in 15 mins	5	events
Worst case duration in 15 mins	0.083	mins		Worst case duration in 15 mins	0.083	mins		Worst case duration in 15 mins	0.083	mins
15 min Leq	52.4	dB(A) @ 1m		15 min Leq	52.4	dB(A) @ 1m		15 min Leq	52.4	dB(A) @ 1m
Distance to receiver	220	m		Distance to receiver	435	m		Distance to receiver	80	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	-10	dB(A)
Distance attenuation	-46.8	dB(A)		Distance attenuation	-52.8	dB(A)		Distance attenuation	-38.1	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	8	dB(A)	6	Impact at Façade	2	dB(A)	2	Impact at Façade	7	dB(A)
Carwash foam spray	66	dB(A) @ 3m	#	Carwash foam spray	66	dB(A) @ 3m	#	Carwash foam spray	66	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	59.0	dB(A) @ 1m		15 min Leq	59.0	dB(A) @ 1m		15 min Leq	59.0	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	9	dB(A)	8	Impact at Façade	3	dB(A)	2	Impact at Façade	20	dB(A)
Carwash high pressure rinse	76	dB(A) @ 3m	#	Carwash high pressure rinse	76	dB(A) @ 3m	#	Carwash high pressure rinse	76	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events
Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins
15 min Leq	72.0	dB(A) @ 1m		15 min Leq	72.0	dB(A) @ 1m		15 min Leq	72.0	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	22	dB(A)	#	Impact at Façade	16	dB(A)	#	Impact at Façade	33	dB(A)
Carwash air blower	85	dB(A) @ 3m	#	Carwash air blower	85	dB(A) @ 3m	#	Carwash air blower	85	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	77.5	dB(A) @ 1m		15 min Leq	77.5	dB(A) @ 1m		15 min Leq	77.5	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	28	dB(A)	#	Impact at Façade	21	dB(A)	#	Impact at Façade	39	dB(A)

EVENING											
Leq OFFSITE COMMERCIAL ACTIVITIES IMPACTING:											
Dwelling Due North				**Dwelling Due East**				**Dwellings Due West**			
Carwash vaccum unit	77	dB(A) @ 6m	#	Carwash vaccum unit	77	dB(A) @ 6m	#	Carwash vaccum unit	77	dB(A) @ 6m
Single event duration	300	seconds		Single event duration	300	seconds		Single event duration	300	seconds
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events
Worst case duration in 15 mins	10	mins		Worst case duration in 15 mins	10	mins		Worst case duration in 15 mins	10	mins
15 min Leq	75.2	dB(A) @ 1m		15 min Leq	75.2	dB(A) @ 1m		15 min Leq	75.2	dB(A) @ 1m
Distance to receiver	217	m		Distance to receiver	445	m		Distance to receiver	73	m
Inside to outside car attenuation	-9	dB(A)		Inside to outside car attenuation	-9	dB(A)		Inside to outside car attenuation and ba	-11	dB(A)
Distance attenuation	-31.2	dB(A)		Distance attenuation	-37.4	dB(A)		Distance attenuation	-21.7	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	38	dB(A)	#	Impact at Façade	31	dB(A)	#	Impact at Façade	45	dB(A)
Truck bypass	82	dB(A) @ 1m	#	Truck bypass	82	dB(A) @ 1m	#	Truck bypass	82	dB(A) @ 1m
Single event duration	10	seconds		Single event duration	10	seconds		Single event duration	10	seconds
Number of events in 15 mins	8	events		Number of events in 15 mins	6	events		Number of events in 15 mins	6	events
Worst case duration in 15 mins	1.333	mins		Worst case duration in 15 mins	1	mins		Worst case duration in 15 mins	1	mins
15 min Leq	71.5	dB(A) @ 1m		15 min Leq	70.2	dB(A) @ 1m		15 min Leq	70.2	dB(A) @ 1m
Distance to receiver	225	m		Distance to receiver	340	m		Distance to receiver	62	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-47.0	dB(A)		Distance attenuation	-50.6	dB(A)		Distance attenuation	-35.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	27	dB(A)	#	Impact at Façade	22	dB(A)	#	Impact at Façade	37	dB(A)
Truck airbrakes	97	dB(A) @ 1m	#	Truck airbrakes	97	dB(A) @ 1m	#	Truck airbrakes	97	dB(A) @ 1m
Single event duration	0.5	seconds		Single event duration	0.5	seconds		Single event duration	0.5	seconds
Number of events in 15 mins	8	events		Number of events in 15 mins	6	events		Number of events in 15 mins	6	events
Worst case duration in 15 mins	0.067	mins		Worst case duration in 15 mins	0.05	mins		Worst case duration in 15 mins	0.05	mins
15 min Leq	73.5	dB(A) @ 1m		15 min Leq	72.2	dB(A) @ 1m		15 min Leq	72.2	dB(A) @ 1m
Distance to receiver	225	m		Distance to receiver	340	m		Distance to receiver	70	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	-8	dB(A)
Distance attenuation	-47.0	dB(A)		Distance attenuation	-50.6	dB(A)		Distance attenuation	-36.9	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	29	dB(A)	#	Impact at Façade	24	dB(A)	#	Impact at Façade	30	dB(A)
Goods delivery	70	dB(A) @ 1m	#	Goods delivery	70	dB(A) @ 1m	#	Goods delivery	70	dB(A) @ 1m
Single event duration	600	seconds		Single event duration	600	seconds		Single event duration	600	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	8	mins		Worst case duration in 15 mins	10	mins		Worst case duration in 15 mins	10	mins
15 min Leq	67.3	dB(A) @ 1m		15 min Leq	68.2	dB(A) @ 1m		15 min Leq	68.2	dB(A) @ 1m
Distance to receiver	260	m		Distance to receiver	380	m		Distance to receiver	110	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-48.3	dB(A)		Distance attenuation	-51.6	dB(A)		Distance attenuation	-40.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	21	dB(A)	#	Impact at Façade	19	dB(A)	#	Impact at Façade	30	dB(A)
A/C plant x 4	67	dB(A) @ 2m	#	A/C plant x 4	67	dB(A) @ 2m	#	A/C plant x 4	67	dB(A) @ 2m
Single event duration	300	seconds		Single event duration	300	seconds		Single event duration	300	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	5	mins		Worst case duration in 15 mins	5	mins		Worst case duration in 15 mins	5	mins
15 min Leq	62.2	dB(A) @ 1m		15 min Leq	62.2	dB(A) @ 1m		15 min Leq	62.2	dB(A) @ 1m
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)
Distance attenuation	-42.3	dB(A)		Distance attenuation	-45.8	dB(A)		Distance attenuation	-33.5	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	22	dB(A)	#	Impact at Façade	19	dB(A)	#	Impact at Façade	23	dB(A)
Refrigeration plant x 3	65	dB(A) @ 2m	#	Refrigeration plant x 3	65	dB(A) @ 2m	#	Refrigeration plant x 3	65	dB(A) @ 2m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events
Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins
15 min Leq	61.0	dB(A) @ 1m		15 min Leq	61.0	dB(A) @ 1m		15 min Leq	61.0	dB(A) @ 1m
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)
Distance attenuation	-42.3	dB(A)		Distance attenuation	-45.8	dB(A)		Distance attenuation	-33.5	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	21	dB(A)	#	Impact at Façade	18	dB(A)	#	Impact at Façade	22	dB(A)
Air compressor	72	dB(A) @ 1m	#	Air compressor	72	dB(A) @ 1m	#	Air compressor	72	dB(A) @ 1m
Single event duration	60	seconds		Single event duration	60	seconds		Single event duration	60	seconds
Number of events in 15 mins	3	events		Number of events in 15 mins	3	events		Number of events in 15 mins	3	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	65.0	dB(A) @ 1m		15 min Leq	65.0	dB(A) @ 1m		15 min Leq	65.0	dB(A) @ 1m
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)
Distance attenuation	-48.3	dB(A)		Distance attenuation	-51.8	dB(A)		Distance attenuation	-39.6	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	19	dB(A)	#	Impact at Façade	16	dB(A)	#	Impact at Façade	20	dB(A)
Combined Daytime façade impact	39.3	dB(A)		Combined Daytime façade impact	33.7	dB(A)		Combined Daytime façade impact	47.1	dB(A)

NIGHT											
Leq OFFSITE COMMERCIAL ACTIVITIES IMPACTING:											
Dwelling Due North				**Dwelling Due East**				**Dwellings Due West**			
Car door closure car space	78	dB(A) @ 1m	#	Car door closure car space	78	dB(A) @ 1m	#	Car door closure car space	78	dB(A) @ 1m
Single event duration	0.052	seconds		Single event duration	0.052	seconds		Single event duration	0.052	seconds
Number of events in 15 mins	15	events		Number of events in 15 mins	15	events		Number of events in 15 mins	15	events
Worst case duration in 15 mins	0.013	mins		Worst case duration in 15 mins	0.013	mins		Worst case duration in 15 mins	0.013	mins
15 min Leq	47.4	dB(A) @ 1m		15 min Leq	47.4	dB(A) @ 1m		15 min Leq	47.4	dB(A) @ 1m
Distance to receiver	217	m		Distance to receiver	319	m		Distance to receiver	63	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-46.7	dB(A)		Distance attenuation	-50.1	dB(A)		Distance attenuation	-36.0	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	3	dB(A)	2	Impact at Façade	0	dB(A)	1	Impact at Façade	14	dB(A)
Car door closure at bowser	78	dB(A) @ 1m	#	Car door closure at bowser	78	dB(A) @ 1m	#	Car door closure at bowser	78	dB(A) @ 1m
Single event duration	0.052	seconds		Single event duration	0.052	seconds		Single event duration	0.052	seconds
Number of events in 15 mins	15	events		Number of events in 15 mins	15	events		Number of events in 15 mins	15	events
Worst case duration in 15 mins	0.013	mins		Worst case duration in 15 mins	0.013	mins		Worst case duration in 15 mins	0.013	mins
15 min Leq	47.4	dB(A) @ 1m		15 min Leq	47.4	dB(A) @ 1m		15 min Leq	47.4	dB(A) @ 1m
Distance to receiver	238	m		Distance to receiver	385	m		Distance to receiver	85	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-47.5	dB(A)		Distance attenuation	-51.7	dB(A)		Distance attenuation	-38.6	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	2	dB(A)	2	Impact at Façade	-2	dB(A)	1	Impact at Façade	11	dB(A)
Car bypass @ 5km/hr	72	dB(A) @ 1m	#	Car bypass @ 5km/hr	72	dB(A) @ 1m	#	Car bypass @ 5km/hr	72	dB(A) @ 1m
Single event duration	7	seconds		Single event duration	7	seconds		Single event duration	7	seconds
Number of events in 15 mins	30	events		Number of events in 15 mins	30	events		Number of events in 15 mins	30	events
Worst case duration in 15 mins	3.5	mins		Worst case duration in 15 mins	3.5	mins		Worst case duration in 15 mins	3.5	mins
15 min Leq	65.7	dB(A) @ 1m		15 min Leq	65.7	dB(A) @ 1m		15 min Leq	65.7	dB(A) @ 1m
Distance to receiver	210	m		Distance to receiver	325	m		Distance to receiver	62	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)
Distance attenuation	-46.4	dB(A)		Distance attenuation	-50.2	dB(A)		Distance attenuation	-35.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	22	dB(A)	#	Impact at Façade	18	dB(A)	#	Impact at Façade	32	dB(A)
Tyre pressure beeper	75	dB(A) @ 1m	#	Tyre pressure beeper	75	dB(A) @ 1m	#	Tyre pressure beeper	75	dB(A) @ 1m
Single event duration	1	seconds		Single event duration	1	seconds		Single event duration	1	seconds
Number of events in 15 mins	5	events		Number of events in 15 mins	5	events		Number of events in 15 mins	5	events
Worst case duration in 15 mins	0.083	mins		Worst case duration in 15 mins	0.083	mins		Worst case duration in 15 mins	0.083	mins
15 min Leq	52.4	dB(A) @ 1m		15 min Leq	52.4	dB(A) @ 1m		15 min Leq	52.4	dB(A) @ 1m
Distance to receiver	220	m		Distance to receiver	435	m		Distance to receiver	88	m
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	-10	dB(A)
Distance attenuation	-46.8	dB(A)		Distance attenuation	-52.8	dB(A)		Distance attenuation	-38.9	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	8	dB(A)	6	Impact at Façade	2	dB(A)	2	Impact at Façade	6	dB(A)
Carwash foam spray	66	dB(A) @ 3m	#	Carwash foam spray	66	dB(A) @ 3m	#	Carwash foam spray	66	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	59.0	dB(A) @ 1m		15 min Leq	59.0	dB(A) @ 1m		15 min Leq	59.0	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	9	dB(A)	8	Impact at Façade	3	dB(A)	2	Impact at Façade	20	dB(A)
Carwash high pressure rinse	76	dB(A) @ 3m	#	Carwash high pressure rinse	76	dB(A) @ 3m	#	Carwash high pressure rinse	76	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events
Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins
15 min Leq	72.0	dB(A) @ 1m		15 min Leq	72.0	dB(A) @ 1m		15 min Leq	72.0	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	22	dB(A)	#	Impact at Façade	16	dB(A)	#	Impact at Façade	33	dB(A)
Carwash air blower	85	dB(A) @ 3m	#	Carwash air blower	85	dB(A) @ 3m	#	Carwash air blower	85	dB(A) @ 3m
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins
15 min Leq	77.5	dB(A) @ 1m		15 min Leq	77.5	dB(A) @ 1m		15 min Leq	77.5	dB(A) @ 1m
Distance to receiver	222	m		Distance to receiver	453	m		Distance to receiver	63	m
Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)		Inside to outside attenuation	-15	dB(A)
Distance attenuation	-37.4	dB(A)		Distance attenuation	-43.6	dB(A)		Distance attenuation	-26.4	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Impact at Façade	28	dB(A)	#	Impact at Façade	21	dB(A)	#	Impact at Façade	39	dB(A)

NIGHT											
Leq OFFSITE COMMERCIAL ACTIVITIES IMPACTING:											
Dwelling Due North				**Dwelling Due East**				**Dwellings Due West**			
Truck bypass	82	dB(A) @ 1m	#	Truck bypass	82	dB(A) @ 1m	#	Truck bypass	82	dB(A) @ 1m	
Single event duration	10	seconds		Single event duration	10	seconds		Single event duration	10	seconds	
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events	
Worst case duration in 15 mins	0.333	mins		Worst case duration in 15 mins	0.333	mins		Worst case duration in 15 mins	0.333	mins	
15 min Leq	65.5	dB(A) @ 1m		15 min Leq	65.5	dB(A) @ 1m		15 min Leq	65.5	dB(A) @ 1m	
Distance to receiver	225	m		Distance to receiver	340	m		Distance to receiver	62	m	
Inside to outside attenuation	0	dB(A)		Inside to outside attenuation	0	dB(A)		Inside to outside attenuation	0	dB(A)	
Distance attenuation	-47.0	dB(A)		Distance attenuation	-50.6	dB(A)		Distance attenuation	-35.8	dB(A)	
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)	
Impact at Façade	21	dB(A)	#	Impact at Façade	17	dB(A)	#	Impact at Façade	32	dB(A)	
Truck airbrakes	97	dB(A) @ 1m	#	Truck airbrakes	97	dB(A) @ 1m	#	Truck airbrakes	97	dB(A) @ 1m	
Single event duration	0.5	seconds		Single event duration	0.5	seconds		Single event duration	0.5	seconds	
Number of events in 15 mins	3	events		Number of events in 15 mins	3	events		Number of events in 15 mins	3	events	
Worst case duration in 15 mins	0.025	mins		Worst case duration in 15 mins	0.025	mins		Worst case duration in 15 mins	0.025	mins	
15 min Leq	69.2	dB(A) @ 1m		15 min Leq	69.2	dB(A) @ 1m		15 min Leq	69.2	dB(A) @ 1m	
Distance to receiver	225	m		Distance to receiver	340	m		Distance to receiver	70	m	
Barrier Screening	0	dB(A)		Barrier Screening	0	dB(A)		Barrier Screening	-8	dB(A)	
Distance attenuation	-47.0	dB(A)		Distance attenuation	-50.6	dB(A)		Distance attenuation	-36.9	dB(A)	
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)	
Impact at Façade	25	dB(A)	#	Impact at Façade	21	dB(A)	#	Impact at Façade	27	dB(A)	
A/C plant x 4	67	dB(A) @ 2m	#	A/C plant	67	dB(A) @ 2m	#	A/C plant	67	dB(A) @ 2m	
Single event duration	300	seconds		Single event duration	300	seconds		Single event duration	300	seconds	
Number of events in 15 mins	1	events		Number of events in 15 mins	1	events		Number of events in 15 mins	1	events	
Worst case duration in 15 mins	5	mins		Worst case duration in 15 mins	5	mins		Worst case duration in 15 mins	5	mins	
15 min Leq	62.2	dB(A) @ 1m		15 min Leq	62.2	dB(A) @ 1m		15 min Leq	62.2	dB(A) @ 1m	
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m	
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)	
Distance attenuation	-42.3	dB(A)		Distance attenuation	-45.8	dB(A)		Distance attenuation	-33.5	dB(A)	
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)	
Impact at Façade	22	dB(A)	#	Impact at Façade	19	dB(A)	#	Impact at Façade	23	dB(A)	
Refrigeration plant x 3	65	dB(A) @ 2m	#	Refrigeration plant	65	dB(A) @ 2m	#	Refrigeration plant	65	dB(A) @ 2m	
Single event duration	180	seconds		Single event duration	180	seconds		Single event duration	180	seconds	
Number of events in 15 mins	2	events		Number of events in 15 mins	2	events		Number of events in 15 mins	2	events	
Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins		Worst case duration in 15 mins	6	mins	
15 min Leq	61.0	dB(A) @ 1m		15 min Leq	61.0	dB(A) @ 1m		15 min Leq	61.0	dB(A) @ 1m	
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m	
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)	
Distance attenuation	-42.3	dB(A)		Distance attenuation	-45.8	dB(A)		Distance attenuation	-33.5	dB(A)	
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)	
Impact at Façade	21	dB(A)	#	Impact at Façade	18	dB(A)	#	Impact at Façade	22	dB(A)	
Air compressor	72	dB(A) @ 1m	#	Air compressor	72	dB(A) @ 1m	#	Air compressor	72	dB(A) @ 1m	
Single event duration	60	seconds		Single event duration	60	seconds		Single event duration	60	seconds	
Number of events in 15 mins	3	events		Number of events in 15 mins	3	events		Number of events in 15 mins	3	events	
Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins		Worst case duration in 15 mins	3	mins	
15 min Leq	65.0	dB(A) @ 1m		15 min Leq	65.0	dB(A) @ 1m		15 min Leq	65.0	dB(A) @ 1m	
Distance to receiver	260	m		Distance to receiver	390	m		Distance to receiver	95	m	
Plant enclosure	0	dB(A)		Plant enclosure	0	dB(A)		Plant enclosure	-8	dB(A)	
Distance attenuation	-48.3	dB(A)		Distance attenuation	-51.8	dB(A)		Distance attenuation	-39.6	dB(A)	
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)	
Impact at Façade	19	dB(A)	#	Impact at Façade	16	dB(A)	#	Impact at Façade	20	dB(A)	
Combined Daytime façade impact	32.4	dB(A)		Combined Daytime façade impact	27.8	dB(A)		Combined Daytime façade impact	41.4	dB(A)	