

LOGAN CITY COUNCIL

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MCUI/25/2024

Proposed Retirement Facility
76-94 Koplick Road
Chambers Flat

ACOUSTIC REPORT



Client:

Ruby Developments Pty Ltd

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1. Introduction

This report is in response to a request by Ruby Developments Pty Ltd for an environmental noise assessment of a proposed retirement facility located at 76-94 Koplick Road, Chambers Flat. To facilitate the assessment, unattended noise monitoring was conducted in the vicinity of nearby residences to establish the criteria for onsite activities. Based on the noise data obtained, onsite activities were assessed to sensitive receivers to determine any requirements for acoustic treatments and management controls.

2. Site Description

2.1 Site Location

The site is described by the following:

76-94 Koplick Road, Chambers Flat
Lot 3 on RP 809255

Refer to Figure 1 for site location.

Figure 1: Site Location (Not to Scale)



A comprehensive site survey was conducted on the 14th of June 2024 which identified the following:

- The site currently consists of a single storey residential dwelling which is to be removed to make way for the proposed development.
- Residential and vacant land are located adjacent the eastern and western site boundaries.
- Located to the south are residential land uses.
- Koplick Road bounds the site to the north, separating the development from residential land uses and 'St Philomena School'.

2.2 Proposal

The proposal seeks to develop a retirement facility comprised of the following:

- Total site area of 203,510m².
- 282 lots as follows:
 - 88 standard lots (14.0m x 21.0m).
 - 76 reduced lots (13.5m x 21.0m).
 - 38 corner villa lots (13.5m x 21.0m).
 - 47 reduced lots (13.0m x 21.0m)
 - 33 special lots.
- Club house, workshop, dog run, lawn bowls green, tennis and pickleball courts.
- Parking as follows:
 - 86 visitor car parking spaces.
 - 40 RV parking spaces.

This assessment assumes 24-hour operation, 7 days a week.

2.3 Zoning

Review of the Logan Planning Scheme Interactive Mapping indicates that the proposed development is located within the Emerging Community zone. Residential sensitive uses in the vicinity of the site are zoned Emerging Community with 'St Philomena School' zoned Community Facilities.

2.4 Acoustic Environment

The surrounding area is primarily affected by road traffic noise associated with the local road network.

3. Equipment

The following equipment was previously used to record ambient noise levels:

- Rion NL42 Environmental Noise Monitor
- BSWA Technology Co. Ltd Sound Calibrator

The Rion NL42 Environmental Noise Monitor hold current NATA Laboratory Certification and was field calibrated before and after the monitoring period, with no significant drift from the reference signal recorded.

4. Receivers and Noise Monitoring Location

4.1 Receiver Locations

The nearest sensitive receiver locations were identified as follows:

1. A single storey residential dwelling is located to the north at 2 Birchwood Street (Emerging Community zone).
2. A single storey residential dwelling and vacant land are located to the east at 64 and 66-74 Koplick Road (Emerging Community zones). Due to the zoning, this assessment assumes that single storey residential dwellings are located on the vacant lot (64 Koplick Road).
3. Single storey residential dwellings are located to the south of the site at 345-355 Holloway Road and 54 Andrews Court (Emerging Community zones).
4. A single storey residential dwelling is located to the west at 64 Koplick Road (Emerging Community zone).
- A. 'St Philomena School' is located to the north of the site at 61 Koplick Road (Community Facilities zone).

These locations were chosen as being representative of the nearest sensitive receivers to the proposed development. Refer to Figure 2 for these locations. As the neighbouring lots are largely undeveloped, two scenarios were assessed. Option 1 considers noise impacts to the entire site boundary (should neighbouring lots to the east and west be developed) with option 2 considering existing dwellings (should neighbouring lots to the east and west remain undeveloped).

Figure 2: Receivers & Noise Monitoring Location



4.2 Unattended Noise Monitoring

A Rion NL42 environmental noise monitor was placed onsite at 76-94 Koplick Road to measure ambient noise levels. This location was selected as it was considered being representative of the nearest residential receivers. The monitor was located in a free field position with the microphone approximately 1.4 metres above ground surface level. The noise monitor was set to record noise levels between the 14th to the 26th of June 2024.

The environmental noise monitor was set to record noise levels in "A" weighting, Fast response using 15 minute statistical intervals. Ambient noise monitoring was conducted in accordance with Australian Standard AS1055:2018 *Acoustics – Description and measurement of environmental noise* and *EPA Noise Measurement Manual 2000*. For the unattended noise monitoring locations refer to Figure 2.

5. Measured Noise Levels

The following tables present the measured ambient noise levels from the unattended noise survey and meteorological conditions.

5.1 Meteorological Conditions

Meteorological observations during the unattended noise monitoring survey were obtained from the Bureau of Meteorology website (<http://www.bom.gov.au/climate/data>), shown in Table 1 below.

Table 1: Meteorological Conditions – Greenbank

Day	Date	Rainfall (mm)	Wind			
			9am		3pm	
			Speed (km/h)	Direction	Speed (km/h)	Direction
Friday	14/06/24	0	2	NW	4	W
Saturday	15/06/24	0	6	NW	4	WNW
Sunday	16/06/24	0	4	WNW	4	NW
Monday	17/06/24	0	9	WNW	11	W
Tuesday	18/06/24	0	6	WNW	6	NW
Wednesday	19/06/24	0	6	NW	6	NNE
Thursday	20/06/24	0	2	NNW	Calm	-
Friday	21/06/24	0	Calm	-	4	W
Saturday	22/06/24	0	2	SW	6	N
Sunday	23/06/24	0	Calm	-	7	SSW
Monday	24/06/24	0	4	WNW	7	NNE
Tuesday	25/06/24	1.6	4	SW	7	NNE
Wednesday	26/06/24	0	Calm	-	2	N

5.2 Ambient Noise Levels

The ambient noise levels measured at the monitoring location are as follows:

Table 2: Measured Ambient Noise Levels – Monday to Saturday

Day	Date	L90 dB(A)		
		Day	Evening	Night
Friday	14/06/24	40	41	37
Saturday	15/06/24	37	33	31
Sunday	16/06/24	37	30	26
Monday	17/06/24	41	33	29
Tuesday	18/06/24	40	34	31
Wednesday	19/06/24	41	39	32
Thursday	20/06/24	41	39	35
Friday	21/06/24	41	36	35
Saturday	22/06/24	38	37	28
Sunday	23/06/24	40	33	28
Monday	24/06/24	42	38	31
Tuesday	25/06/24	41	40	33
Wednesday	26/06/24	41	-	35
Overall value		40	37	32

Table 3: Measured Ambient Noise Levels - Sunday

Day	Date	L90 dB(A)		
		Day	Evening	Night
Sunday	16/06/24	37	30	26
Sunday	23/06/24	40	33	28
Overall value		39	31	27

6. Noise Criteria

6.1 Logan City Council - Environmental Noise Criteria

The noise criteria for the receiver zone as applied by Logan City Council in SC6.2.3 Planning Scheme Policy 3 of the Logan Planning Scheme 2015 v 9.0 are detailed as follows:

6.1.1 Noise Emission Standards (Receivers 1, 2, 3 and 4)

Table 4 details the noise criteria for the protection of residential amenity. As all residential receivers are located within an emerging community zone (receivers 1, 2, 3 and 4), the following criteria is applicable:

Table 4: Logan City Council Noise Criteria – Noise Emission Standards for The Protection of Residential Amenity

Noise Type	Time Period	Monday to Saturday	Sunday and Public Holidays
Non-steady sound	Daytime (7am - 6pm)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$
	Evening (6pm - 10pm)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$
	Night (10pm - 7am)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 0\text{dB(A)}$ and $L_{Amax} \leq 60\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 0\text{dB(A)}$ and $L_{Amax} \leq 60\text{dB(A)}$
Continuous noise	Anytime	$L_{A90,T} \text{ plus } 0\text{dB(A)}$	$L_{A90,T} \text{ plus } 0\text{dB(A)}$

6.1.2 Noise Emission Standards (Receiver A)

Table 5 details the criteria for noise sensitive uses within a community facilities zone (receiver A).

Table 5: Logan City Council Criteria – Noise Emission Standards for the Protection of General Amenity

Noise Type	Time Period	Monday to Saturday	Sunday and Public Holidays
Non-steady sound	Daytime (7am - 6pm)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 10\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$
	Evening (6pm - 10pm)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 10\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$
	Night (10pm - 7am)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$ and $L_{Amax} \leq 80\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$ and $L_{Amax} \leq 80\text{dB(A)}$
Continuous noise	Anytime	$L_{A90,T} \text{ plus } 5\text{dB(A)}$	$L_{A90,T} \text{ plus } 5\text{dB(A)}$

6.1.2.1 Applicable Noise Criteria – Noise Emission Standards (Receivers 1, 2, 3 and 4)

Based on the measured ambient noise levels in Section 5.2, the residential amenity criteria applied by Logan City Council is stated in Table 6

Table 6: Applicable Noise Criteria – Residential Amenity, All Time Periods

Noise Type	Time Period	Monday to Saturday $L_{Aeq\ dB(A)}$	Sunday and Public Holidays $L_{Aeq\ dB(A)}$
Non-steady sound	Daytime (7am - 6pm)	45	44
	Evening (6pm - 10pm)	42	36
	Night (10pm - 7am)	32	27
Continuous noise	Anytime	$L_{A90,T} \text{ plus } 0\text{dB(A)}$	$L_{A90,T} \text{ plus } 0\text{dB(A)}$

6.1.2.2 Applicable Noise Criteria – Noise Emission Standards (Receiver A)

Based on the measured ambient noise levels in Section 5.2, the general amenity noise criteria applied by Logan City Council is stated in Table 7.

Table 7: Applicable Noise Criteria – General Amenity, All Time Periods

Noise Type	Time Period	Monday to Saturday L _{Aeq} dB(A)	Sunday and Public Holidays L _{Aeq} dB(A)
Non-steady sound	Daytime (7am - 6pm)	50	44
	Evening (6pm - 10pm)	47	36
	Night (10pm - 7am)	37	32
Continuous noise	Anytime	L _{A90,T} plus 5dB(A)	L _{A90,T} plus 5dB(A)

7. Environmental Assessment

7.1 Onsite Activities

As the neighbouring lots are largely undeveloped, this assessment has considered two scenarios and relevant acoustic barrier treatment options. Option 1 considers noise impacts to the entire site boundary (should neighbouring lots to the east and west be developed) with option 2 considering existing dwellings (should neighbouring lots to the east and west remain undeveloped). It is noted that barrier recommendations presented in Section 8 also considered the two scenarios with relevant barrier treatment required for predicted compliance.

Noise associated with the development was assessed based on previous measurements of similar activities. The calculations assume that the nominated activities are located at the closest representative point within the development site to each receiver location. Any relevant shielding or building transmission loss is taken into account for these activities.

7.2 Option 1 – Neighbouring Lots Developed

7.2.1 Onsite Activities – Residential Amenity

The noise source levels and predicted impacts at the receiver locations 1, 2, 3 and 4 are shown in

Table 8.

Table 8: Noise Emission Standards – Monday to Saturday, Residential Amenity

Receiver	Receivers													L _{Aeq} 15 min Compliance								
	Description													Day	Eve	Night						
	Source Leq@1m dB(A)	Correction dB(A) *	Corrected Leq@1m dB(A)	No. of events per 15min Day	No. of events per 15min Eve	No. of events per 15min Night	Duration per event	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building TL dB	Building Screening dB	Dist atten. @ 60m/dd	L _{Aeq} adj.T ext. dB(A) Day	L _{Aeq} adj.T ext. dB(A) Eve	L _{Aeq} adj.T ext. dB(A) Night					
1	Criteria																45	42	32			
	Car door closure	75	2	77	10	5	5	2	121					-42	18	15	15	Yes	Yes	Yes		
	Car passby	69		69	10	5	5	15	121					-42	19	16	16	Yes	Yes	Yes		
	Car start	74	2	76	10	5	5	2	121					-42	17	14	14	Yes	Yes	Yes		
	Pickleball Court	75		75	1	1	1	720	706					-57	17	17		Yes	Yes	n/a		
	Tennis Court	75		75	1	1	1	720	623					-56	18	18		Yes	Yes	n/a		
	Dogs Exercising Outdoors	72		72	1	1	1	450	563					-56	13	13		Yes	Yes	n/a		
	Lawn Bowls	70		70	1	1	1	450	669					-57	10	10		Yes	Yes	n/a		
	Workshop activities	94		94	1	1	1	450	347			-24		-51	16	16		Yes	Yes	n/a		
	Patron Noise Indoors - Clubhouse	79		79	1	1	1	900	414			-10		-53	16	16	16	Yes	Yes	Yes		
	Outdoor Dining - Clubhouse	75		75	1	1	1	900	414					-53	22	22		Yes	Yes	n/a		
	Deliveries	92		92	1	1	1	60	397					-52	28			Yes	n/a	n/a		
	Total																31	27	22	Yes	Yes	Yes
2	Criteria																45	42	32			
	Car door closure	75	2	77	10	5	5	2	18	2.4	-12			-26	22	19	19	Yes	Yes	Yes		
	Car passby	69		69	10	5	5	15	18	2.4	-12			-26	23	20	20	Yes	Yes	Yes		
	Car start	74	2	76	10	5	5	2	18	2.4	-12			-26	21	18	18	Yes	Yes	Yes		
	Pickleball Court	75		75	1	1	1	720	16	2.6	-12			-25	37	37		Yes	Yes	n/a		
	Tennis Court	75		75	1	1	1	720	15	2.6	-12			-24	38	38		Yes	Yes	n/a		
	Dogs Exercising Outdoors	72		72	1	1	1	450	14	2.6	-14			-23	32	32		Yes	Yes	n/a		
	Lawn Bowls	70		70	1	1	1	450	15	2.6	-12			-24	31	31		Yes	Yes	n/a		
	Workshop activities	94		94	1	1	1	450	16	2.4	-10	-24		-25	32	32		Yes	Yes	n/a		
	Patron Noise Indoors - Clubhouse	79		79	1	1	1	900	212	2.4	-9	-10		-47	13	13	13	Yes	Yes	Yes		
	Outdoor Dining - Clubhouse	75		75	1	1	1	900	194	2.4	-9			-46	20	20		Yes	Yes	n/a		
	Deliveries	92		92	1	1	1	60	243	2.4	-6			-48	26			Yes	n/a	n/a		
	Total																42	42	24	Yes	Yes	Yes
3	Criteria																45	42	32			
	Car door closure	75	2	77	10	5	5	2	172					-45	15	12	12	Yes	Yes	Yes		
	Car passby	69		69	10	5	5	15	172					-45	16	13	13	Yes	Yes	Yes		
	Car start	74	2	76	10	5	5	2	172					-45	14	11	11	Yes	Yes	Yes		
	Pickleball Court	75		75	1	1	1	720	150					-44	30	30		Yes	Yes	n/a		
	Tennis Court	75		75	1	1	1	720	246					-48	26	26		Yes	Yes	n/a		
	Dogs Exercising Outdoors	72		72	1	1	1	450	316					-50	19	19		Yes	Yes	n/a		
	Lawn Bowls	70		70	1	1	1	450	194					-46	21	21		Yes	Yes	n/a		
	Workshop activities	94		94	1	1	1	450	562			-24		-55	12	12		Yes	Yes	n/a		
	Patron Noise Indoors - Clubhouse	79		79	1	1	1	900	407			-10		-53	16	16	16	Yes	Yes	Yes		
	Outdoor Dining - Clubhouse	75		75	1	1	1	900	374					-52	23	23		Yes	Yes	n/a		
	Deliveries	92		92	1	1	1	60	447				-19	-54	7	7		Yes	n/a	n/a		
	Total																33	33	20	Yes	Yes	Yes
4	Criteria																45	42	32			
	Car door closure	75	2	77	10	5	5	2	18	2.2	-9			-26	25	22	22	Yes	Yes	Yes		
	Car passby	69		69	10	5	5	15	18	2.2	-9			-26	26	23	23	Yes	Yes	Yes		
	Car start	74	2	76	10	5	5	2	18	2.2	-9			-26	24	21	21	Yes	Yes	Yes		
	Pickleball Court	75		75	1	1	1	720	247	2.2	-6			-48	20	20		Yes	Yes	n/a		
	Tennis Court	75		75	1	1	1	720	249	2.2	-6			-48	20	20		Yes	Yes	n/a		
	Dogs Exercising Outdoors	72		72	1	1	1	450	255	2.2	-6			-49	14	14		Yes	Yes	n/a		
	Lawn Bowls	70		70	1	1	1	450	144	2.2	-6			-44	17	17		Yes	Yes	n/a		
	Workshop activities	94		94	1	1	1	450	251	2.2	-6	-24		-48	13	13		Yes	Yes	n/a		
	Patron Noise Indoors - Clubhouse	79		79	1	1	1	900	51	2.2	-6	-10		-35	28	28	28	Yes	Yes	Yes		
	Outdoor Dining - Clubhouse	75		75	1	1	1	900	39	2.2	-7			-32	36	36		Yes	Yes	n/a		
	Deliveries	92		92	1	1	1	60	51	2.2	-6			-35	39			Yes	n/a	n/a		
	Total																42	37	31	Yes	Yes	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted at the nearest residential receivers on the condition the recommendations in Section 8 are implemented.

The noise source levels and predicted impacts at the receiver locations 1, 2, 3 and 4 during Sunday are shown below in Table 9.

Table 9: Noise Emission Standards – Sunday, Residential Amenity

Receiver	Receivers													LAeq 15min Compliance						
	Description													Day	Even	Night				
	Source Leq @ 1m dB(A)	Correction dB(A)*	Corrected Leq @ 1m dB(A)	No. of events per 15min Day	No. of events per 15min Eve	No. of events per 15min Night	Duration per event	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building TL dB	Building Screening dB				Dist atten. @ -6dB/d	LAeq adj, T, ext. dB(A) Day	LAeq adj, T, ext. dB(A) Eve	LAeq adj, T, ext. dB(A) Night
1	Criteria																	44	36	27
	Car door closure	75	2	77	10	5	5	2	121					-42	18	15	15	Yes	Yes	Yes
	Car passby	69		69	10	5	5	15	121					-42	19	16	16	Yes	Yes	Yes
	Car start	74	2	76	10	5	5	2	121					-42	17	14	14	Yes	Yes	Yes
	Pickleball Court	75		75	1				720	706				-57	17			Yes	n/a	n/a
	Tennis Court	75		75	1				720	623				-56	18			Yes	n/a	n/a
	Dogs Exercising Outdoors	72		72	1	1			450	563				-56	13	13		Yes	Yes	n/a
	Lawn Bowls	70		70	1	1			450	669				-57	10	10		Yes	Yes	n/a
	Workshop activities	94		94	1				450	347		-24		-51	16			Yes	n/a	n/a
	Patron Noise Indoors - Clubhouse	79		79	1	1			900	414		-10		-53	16	16		Yes	Yes	n/a
	Outdoor Dining - Clubhouse	75		75	1	1			900	414				-53	22	22		Yes	Yes	n/a
Deliveries	92		92	1				60	397				-52	28			Yes	n/a	n/a	
Total																	31	25	21	
Criteria																		44	36	27
2	Car door closure	75	2	77	10	5	5	2	18	2.4	-12			-26	22	19	19	Yes	Yes	Yes
	Car passby	69		69	10	5	5	15	18	2.4	-12			-26	23	20	20	Yes	Yes	Yes
	Car start	74	2	76	10	5	5	2	18	2.4	-12			-26	21	18	18	Yes	Yes	Yes
	Pickleball Court	75		75	1				720	16	2.6	-12		-25	37			Yes	n/a	n/a
	Tennis Court	75		75	1				720	15	2.6	-12		-24	38			Yes	n/a	n/a
	Dogs Exercising Outdoors	72		72	1	1			450	14	2.6	-14		-23	32	32		Yes	Yes	n/a
	Lawn Bowls	70		70	1	1			450	15	2.6	-12		-24	31	31		Yes	Yes	n/a
	Workshop activities	94		94	1				450	16	2.4	-10	-24	-25	32			Yes	n/a	n/a
	Patron Noise Indoors - Clubhouse	79		79	1	1			900	212	2.4	-9	-10	-47	13	13		Yes	Yes	n/a
	Outdoor Dining - Clubhouse	75		75	1				900	194	2.4	-9		-46	20			Yes	n/a	n/a
	Deliveries	92		92	1				60	243	2.4	-6		-48	26			Yes	n/a	n/a
Total																	42	35	23	
Criteria																		44	36	27
3	Car door closure	75	2	77	10	5	5	2	172					-45	15	12	12	Yes	Yes	Yes
	Car passby	69		69	10	5	5	15	172					-45	16	13	13	Yes	Yes	Yes
	Car start	74	2	76	10	5	5	2	172					-45	14	11	11	Yes	Yes	Yes
	Pickleball Court	75		75	1				720	150				-44	30			Yes	n/a	n/a
	Tennis Court	75		75	1				720	246				-48	26			Yes	n/a	n/a
	Dogs Exercising Outdoors	72		72	1	1			450	316				-50	19	19		Yes	Yes	n/a
	Lawn Bowls	70		70	1	1			450	194				-46	21	21		Yes	Yes	n/a
	Workshop activities	94		94	1				450	562		-24		-55	12			Yes	n/a	n/a
	Patron Noise Indoors - Clubhouse	79		79	1	1			900	407		-10		-53	16	16		Yes	Yes	n/a
	Outdoor Dining - Clubhouse	75		75	1	1			900	374				-52	23	23		Yes	Yes	n/a
	Deliveries	92		92	1				60	447				-54	26			Yes	n/a	n/a
Total																	34	27	18	
Criteria																		44	36	27
4	Car door closure	75	2	77	10	5	5	2	18	2.2	-9			-26	25	22	22	Yes	Yes	Yes
	Car passby	69		69	10	5	5	15	18	2.2	-9			-26	26	23	23	Yes	Yes	Yes
	Car start	74	2	76	10	5	5	2	18	2.2	-9			-26	24	21	21	Yes	Yes	Yes
	Pickleball Court	75		75	1				720	247	2.2	-6		-48	20			Yes	n/a	n/a
	Tennis Court	75		75	1				720	249	2.2	-6		-48	20			Yes	n/a	n/a
	Dogs Exercising Outdoors	72		72	1	1			450	255	2.2	-6		-49	14	14		Yes	Yes	n/a
	Lawn Bowls	70		70	1	1			450	144	2.2	-6		-44	17	17		Yes	Yes	n/a
	Workshop activities	94		94	1				450	251	2.2	-6	-24	-48	13			Yes	n/a	n/a
	Patron Noise Indoors - Clubhouse	79		79	1	1			900	51	2.2	-6	-10	-35	28	28		Yes	Yes	n/a
	Outdoor Dining - Clubhouse	75		75	1				900	39	2.2	-7		-32	36			Yes	n/a	n/a
	Deliveries	92		92	1				60	51	2.2	-6		-35	39			Yes	n/a	n/a
Total																	42	31	27	

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted at the nearest residential receivers on the condition the recommendations in Section 8 are implemented.

The LAmax noise source levels and predicted impacts at the receiver locations 1, 2, 3 and 4 are shown below in Table 10.

Table 10: LAmax Noise Emission Standards – Residential Amenity

Receiver	Receivers										Complies Night Lmax dB(A)	
	Description	Source @1m dB(A)	Correction dB(A)*	Corrected dB(A)	Distance (m)	No Barrier (height (m))	Barrier screening dB	Building TL dB	Topo screening dB	Dist atten. @-6dB/dd		Lmax adj, Text dB(A)
1	Criteria											60
	Car door closure	82	2	84	121					-42	42	Yes
	Car passby	76		76	121					-42	34	Yes
	Car start	81	2	83	121					-42	41	Yes
	Patron Noise Indoors - Clubhouse	86		86	414			-10		-52	24	Yes
2	Criteria											60
	Car door closure	82	2	84	18	2.4	-12			-26	46	Yes
	Car passby	76		76	18	2.4	-12			-25	39	Yes
	Car start	81	2	83	18	2.4	-12			-25	46	Yes
	Patron Noise Indoors - Clubhouse	86		86	212	2.4	-9	-10		-47	20	Yes
3	Criteria											60
	Car door closure	82	2	84	172					-45	39	Yes
	Car passby	76		76	172					-45	31	Yes
	Car start	81	2	83	172					-45	38	Yes
	Patron Noise Indoors - Clubhouse	86		86	407			-10		-52	24	Yes
4	Criteria											60
	Car door closure	82	2	84	18	2.2	-9			-26	49	Yes
	Car passby	76		76	18	2.2	-9			-25	42	Yes
	Car start	81	2	83	18	2.2	-9			-25	49	Yes
	Patron Noise Indoors - Clubhouse	86		86	51	2.2	-6	-10		-34	36	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted at the nearest residential receivers during the night time period, on the condition the recommendations in Section 8 are implemented.

7.2.2 Onsite Activities – General Amenity

The noise source levels and predicted impacts at the receiver location A are shown below in Table 11.

Table 11: Noise Emission Standards – Monday to Saturday, General Amenity

Receiver	Receivers										LAEq 15 min Compliance			
	Description	Source Leq@1m dB(A)	Correction dB(A)*	Corrected Leq@1m dB(A)	No. of events per 15min Day	Duration per event	Distance (m)	Inc Barrier (height (m))	Barrier screening dB	Building TL dB		Building Screening dB	Dist atten. @-6dB/dd	LAEq adj, Text dB(A) Day
A	Criteria												50	
	Car door closure	75	2	77	10	2	97					-40	20	Yes
	Car passby	69		69	10	15	97					-40	21	Yes
	Car start	74	2	76	10	2	97					-40	19	Yes
	Pickleball Court	75		75	1	720	688					-57	17	Yes
	Tennis Court	75		75	1	720	592					-56	18	Yes
	Dogs Exercising Outdoors	72		72	1	450	523					-55	14	Yes
	Lawn Bowls	70		70	1	450	640					-57	10	Yes
	Workshop activities	94		94	1	450	275			-24		-49	18	Yes
	Patron Noise Indoors - Clubhouse	81		81	1	900	454			-10		-54	17	Yes
	Outdoor Dining - Clubhouse	75		75	1	900	454					-54	21	Yes
	Deliveries	92		92	1	60	422					-53	27	Yes
	Total												31	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted at St Philomena School on the condition the recommendations in Section 8 are implemented.

7.3 Option 2 – Neighbouring Lots Undeveloped

7.3.1 Onsite Activities – Residential Amenity

The noise source levels and predicted impacts at the receiver (dwelling) locations 1, 2, 3 and 4 are shown in Table 12.

Table 12: Noise Emission Standards – Monday to Saturday, Residential Amenity

Receiver	Receivers										Laeq 15 min Compliance												
	Description	Source Leq@1m dB(A)	Correction dB(A)*	Corrected Leq@1m dB(A)	No. of events per 15min Day	No. of events per 15min Eve	No. of events per 15min Night	Duration per event	Distance (m)	Inc	Barrier (height) (m)	Barrier screening dB	Building TL dB	Building Screening dB	Dist atten. @-6dB/dd	Laeq adj, T ext. dB(A) Day	Laeq adj, T ext. dB(A) Eve	Laeq adj, T ext. dB(A) Night	Day	Eve	Night		
1	Criteria																		45	42	32		
	Car door closure	75	2	77	10	5	5	2	121						-42	18	15	15	Yes	Yes	Yes		
	Car passby	69		69	10	5	5	15	121						-42	19	16	16	Yes	Yes	Yes		
	Car start	74	2	76	10	5	5	2	121						-42	17	14	14	Yes	Yes	Yes		
	Pickleball Court	75		75	1	1		720	706						-57	17	17	17	Yes	Yes	n/a		
	Tennis Court	75		75	1	1		720	623						-56	18	18	18	Yes	Yes	n/a		
	Dogs Exercising Outdoors	72		72	1	1		450	563						-56	13	13	13	Yes	Yes	n/a		
	Lawn Bowls	70		70	1	1		450	669						-57	10	10	10	Yes	Yes	n/a		
	Workshop activities	94		94	1	1		450	347				-24		-51	16	16	16	Yes	Yes	n/a		
	Patron Noise Indoors - Clubhouse	79		79	1	1	1	900	414			-10			-53	16	16	16	Yes	Yes	Yes		
	Outdoor Dining - Clubhouse	75		75	1	1		900	414						-53	22	22	22	Yes	Yes	n/a		
	Deliveries	92		92	1			60	397						-52	28			Yes	n/a	n/a		
	Total																		31	27	22	Yes	Yes
2	Criteria																		45	42	32		
	Car door closure	75	2	77	10	5	5	2	36	2.4	-12				-32	16	13	13	Yes	Yes	Yes		
	Car passby	69		69	10	5	5	15	33	2.4	-12				-31	18	15	15	Yes	Yes	Yes		
	Car start	74	2	76	10	5	5	2	36	2.4	-12				-32	15	12	12	Yes	Yes	Yes		
	Pickleball Court	75		75	1	1		720	450						-54	20	20	20	Yes	Yes	n/a		
	Tennis Court	75		75	1	1		720	339						-51	23	23	23	Yes	Yes	n/a		
	Dogs Exercising Outdoors	72		72	1	1		450	260						-49	20	20	20	Yes	Yes	n/a		
	Lawn Bowls	70		70	1	1		450	330						-51	16	16	16	Yes	Yes	n/a		
	Workshop activities	94		94	1	1		450	16	2.4	-10	-24			-25	32	32	32	Yes	Yes	n/a		
	Patron Noise Indoors - Clubhouse	79		79	1	1	1	900	212			-10			-47	22	22	22	Yes	Yes	Yes		
	Outdoor Dining - Clubhouse	75		75	1	1		900	194						-46	29	29	29	Yes	Yes	n/a		
	Deliveries	92		92	1			60	243						-48	32			Yes	n/a	n/a		
	Total																		37	35	23	Yes	Yes
3	Criteria																		45	42	32		
	Car door closure	75	2	77	10	5	5	2	172						-45	15	12	12	Yes	Yes	Yes		
	Car passby	69		69	10	5	5	15	172						-45	16	13	13	Yes	Yes	Yes		
	Car start	74	2	76	10	5	5	2	172						-45	14	11	11	Yes	Yes	Yes		
	Pickleball Court	75		75	1	1		720	150						-44	30	30	30	Yes	Yes	n/a		
	Tennis Court	75		75	1	1		720	246						-48	26	26	26	Yes	Yes	n/a		
	Dogs Exercising Outdoors	72		72	1	1		450	316						-50	19	19	19	Yes	Yes	n/a		
	Lawn Bowls	70		70	1	1		450	194						-46	21	21	21	Yes	Yes	n/a		
	Workshop activities	94		94	1	1		450	562			-24			-55	12	12	12	Yes	Yes	n/a		
	Patron Noise Indoors - Clubhouse	79		79	1	1	1	900	407			-10			-53	16	16	16	Yes	Yes	Yes		
	Outdoor Dining - Clubhouse	75		75	1	1		900	374						-52	23	23	23	Yes	Yes	n/a		
	Deliveries	92		92	1			60	447				-19		-54	7			Yes	n/a	n/a		
	Total																		33	33	20	Yes	Yes
4	Criteria																		45	42	32		
	Car door closure	75	2	77	10	5	5	2	24	2.2	-9				-28	23	20	20	Yes	Yes	Yes		
	Car passby	69		69	10	5	5	15	15	2.2	-9				-24	28	25	25	Yes	Yes	Yes		
	Car start	74	2	76	10	5	5	2	24	2.2	-9				-28	22	19	19	Yes	Yes	Yes		
	Pickleball Court	75		75	1	1		720	600						-56	18	18	18	Yes	Yes	n/a		
	Tennis Court	75		75	1	1		720	498						-54	20	20	20	Yes	Yes	n/a		
	Dogs Exercising Outdoors	72		72	1	1		450	429						-53	16	16	16	Yes	Yes	n/a		
	Lawn Bowls	70		70	1	1		450	540						-55	12	12	12	Yes	Yes	n/a		
	Workshop activities	94		94	1	1		450	270			-24			-49	18	18	18	Yes	Yes	n/a		
	Patron Noise Indoors - Clubhouse	79		79	1	1	1	900	240			-10			-48	21	21	21	Yes	Yes	Yes		
	Outdoor Dining - Clubhouse	75		75	1	1		900	288						-50	25	25	25	Yes	Yes	n/a		
	Deliveries	92		92	1			60	228						-48	32			Yes	n/a	n/a		
	Total																		35	31	28	Yes	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted at the nearest residential receivers (dwellings) on the condition the recommendations in Section 8 are implemented.

The noise source levels and predicted impacts at the receiver (dwelling) locations 1, 2, 3 and 4 during Sunday are shown below in Table 13.

Table 13: Noise Emission Standards – Sunday, Residential Amenity

Receiver	Receivers														LAeq 15 min Compliance					
	Description														Day	Eve	Night			
	Source Leq@1m dB(A)	Correction dB(A)*	Corrected Leq@1m dB(A)	No. of events per 15min Day	No. of events per 15min Eve	No. of events per 15min Night	Duration per event	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building TL dB	Building Screening dB	Dist atten. @-6dB/dd	LAeq adj, T ext. dB(A) Day	LAeq adj, T ext. dB(A) Eve	LAeq adj, T ext. dB(A) Night			
	1. 2 Birchwood Street (N) 2. 64 and 66-74 Koplick Road (E) 3. 345-355 Holloway Road and 54 Andrews Court (S) 4. 64 Koplick Road (W)																			
	Criteria																44	36	27	
1	Car door closure	75	2	77	10	5	5	2	121					-42	18	15	15	Yes	Yes	Yes
	Car passby	69		69	10	5	5	15	121					-42	19	16	16	Yes	Yes	Yes
	Car start	74	2	76	10	5	5	2	121					-42	17	14	14	Yes	Yes	Yes
	Pickleball Court	75		75	1			720	706					-57	17			Yes	n/a	n/a
	Tennis Court	75		75	1			720	623					-56	18			Yes	n/a	n/a
	Dogs Exercising Outdoors	72		72	1	1		450	563					-56	13	13		Yes	Yes	n/a
	Lawn Bowls	70		70	1	1		450	669					-57	10	10		Yes	Yes	n/a
	Workshop activities	94		94	1			450	347			-24		-51	16			Yes	n/a	n/a
	Patron Noise Indoors - Clubhouse	79		79	1	1		900	414			-10		-53	16	16		Yes	Yes	n/a
	Outdoor Dining - Clubhouse	75		75	1	1		900	414					-53	22	22		Yes	Yes	n/a
	Deliveries	92		92	1			60	397					-52	28			Yes	n/a	n/a
	Total													31	25	21	Yes	Yes	Yes	
	Criteria																44	36	27	
2	Car door closure	75	2	77	10	5	5	2	36	2.4	-12			-32	16	13	13	Yes	Yes	Yes
	Car passby	69		69	10	5	5	15	33	2.4	-12			-31	18	15	15	Yes	Yes	Yes
	Car start	74	2	76	10	5	5	2	36	2.4	-12			-32	15	12	12	Yes	Yes	Yes
	Pickleball Court	75		75	1			720	450					-54	20			Yes	n/a	n/a
	Tennis Court	75		75	1			720	339					-51	23			Yes	n/a	n/a
	Dogs Exercising Outdoors	72		72	1	1		450	260					-49	20	20		Yes	Yes	n/a
	Lawn Bowls	70		70	1	1		450	330					-51	16	16		Yes	Yes	n/a
	Workshop activities	94		94	1			450	16	2.4	-10	-24		-25	32			Yes	n/a	n/a
	Patron Noise Indoors - Clubhouse	79		79	1	1		900	212			-10		-47	22	22		Yes	Yes	n/a
	Outdoor Dining - Clubhouse	75		75	1			900	194					-46	29			Yes	n/a	n/a
	Deliveries	92		92	1			60	243					-48	32			Yes	n/a	n/a
	Total													37	26	18	Yes	Yes	Yes	
	Criteria																44	36	27	
3	Car door closure	75	2	77	10	5	5	2	172					-45	15	12	12	Yes	Yes	Yes
	Car passby	69		69	10	5	5	15	172					-45	16	13	13	Yes	Yes	Yes
	Car start	74	2	76	10	5	5	2	172					-45	14	11	11	Yes	Yes	Yes
	Pickleball Court	75		75	1			720	150					-44	30			Yes	n/a	n/a
	Tennis Court	75		75	1			720	246					-48	26			Yes	n/a	n/a
	Dogs Exercising Outdoors	72		72	1	1		450	316					-50	19	19		Yes	Yes	n/a
	Lawn Bowls	70		70	1	1		450	194					-46	21	21		Yes	Yes	n/a
	Workshop activities	94		94	1			450	562			-24		-55	12			Yes	n/a	n/a
	Patron Noise Indoors - Clubhouse	79		79	1	1		900	407			-10		-53	16	16		Yes	Yes	n/a
	Outdoor Dining - Clubhouse	75		75	1	1		900	374					-52	23	23		Yes	Yes	n/a
	Deliveries	92		92	1			60	447					-54	26			Yes	n/a	n/a
	Total													34	27	18	Yes	Yes	Yes	
	Criteria																44	36	27	
4	Car door closure	75	2	77	10	5	5	2	24	2.2	-9			-28	23	20	20	Yes	Yes	Yes
	Car passby	69		69	10	5	5	15	15	2.2	-9			-24	28	25	25	Yes	Yes	Yes
	Car start	74	2	76	10	5	5	2	24	2.2	-9			-28	22	19	19	Yes	Yes	Yes
	Pickleball Court	75		75	1			720	600					-56	18			Yes	n/a	n/a
	Tennis Court	75		75	1			720	498					-54	20			Yes	n/a	n/a
	Dogs Exercising Outdoors	72		72	1	1		450	429					-53	16	16		Yes	Yes	n/a
	Lawn Bowls	70		70	1	1		450	540					-55	12	12		Yes	Yes	n/a
	Workshop activities	94		94	1			450	270			-24		-49	18			Yes	n/a	n/a
	Patron Noise Indoors - Clubhouse	79		79	1	1		900	240			-10		-48	21	21		Yes	Yes	n/a
	Outdoor Dining - Clubhouse	75		75	1			900	288					-50	25			Yes	n/a	n/a
	Deliveries	92		92	1			60	228					-48	32			Yes	n/a	n/a
	Total													35	29	27	Yes	Yes	Yes	

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted at the nearest residential receivers (dwellings) on the condition the recommendations in Section 8 are implemented.

The LMax noise source levels and predicted impacts at the receiver (dwelling) locations 1, 2, 3 and 4 are shown below in Table 14.

Table 14: LMax Noise Emission Standards – Residential Amenity

Receiver	Receivers										Complies Night Lmax dB(A)	
	Description	Source @1m dB(A)	Correction dB(A)*	Corrected dB(A)	Distance (m)	No Barrier (height (m))	Barrier screening dB	Building TL dB	Topo screening dB	Dist atten. @-6dB/dd		Lmax adj,T ext. dB(A)
1	Criteria											60
	Car door closure	82	2	84	121					-42	42	Yes
	Car passby	76		76	121					-42	34	Yes
	Car start	81	2	83	121					-42	41	Yes
	Patron Noise Indoors - Clubhouse	86		86	414			-10		-52	24	Yes
2	Criteria											60
	Car door closure	82	2	84	18	2.4	-12			-26	46	Yes
	Car passby	76		76	18	2.4	-12			-25	39	Yes
	Car start	81	2	83	18	2.4	-12			-25	46	Yes
	Patron Noise Indoors - Clubhouse	86		86	212			-10		-47	29	Yes
3	Criteria											60
	Car door closure	82	2	84	172					-45	39	Yes
	Car passby	76		76	172					-45	31	Yes
	Car start	81	2	83	172					-45	38	Yes
	Patron Noise Indoors - Clubhouse	86		86	407			-10		-52	24	Yes
4	Criteria											60
	Car door closure	82	2	84	18	2.2	-9			-26	49	Yes
	Car passby	76		76	18	2.2	-9			-25	42	Yes
	Car start	81	2	83	18	2.2	-9			-25	49	Yes
	Patron Noise Indoors - Clubhouse	86		86	51			-10		-34	42	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted at the nearest residential receivers (dwellings) during the night time period, on the condition the recommendations in Section 8 are implemented.

7.3.2 Onsite Activities – General Amenity

The noise source levels and predicted impacts at the receiver location A are shown below in Table 15.

Table 15: Noise Emission Standards – Monday to Saturday, General Amenity

Receiver	Receivers										Laeq 15 min Compliance			
	Description	Source Leq@1m dB(A)	Correction dB(A)*	Corrected Leq@1m dB(A)	No. of events per 15min Day	Duration per event	Distance (m)	Inc Barrier (height (m))	Barrier screening dB	Building TL dB		Building Screening dB	Dist atten. @-6dB/dd	Laeq adj,T ext. dB(A) Day
A	Criteria												50	
	Car door closure	75	2	77	10	2	97					-40	20	Yes
	Car passby	69		69	10	15	97					-40	21	Yes
	Car start	74	2	76	10	2	97					-40	19	Yes
	Pickleball Court	75		75	1	720	688					-57	17	Yes
	Tennis Court	75		75	1	720	592					-56	18	Yes
	Dogs Exercising Outdoors	72		72	1	450	523					-55	14	Yes
	Lawn Bowls	70		70	1	450	640					-57	10	Yes
	Workshop activities	94		94	1	450	275			-24		-49	18	Yes
	Patron Noise Indoors - Clubhouse	81		81	1	900	454			-10		-54	17	Yes
	Outdoor Dining - Clubhouse	75		75	1	900	454					-54	21	Yes
	Deliveries	92		92	1	60	422					-53	27	Yes
	Total												31	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

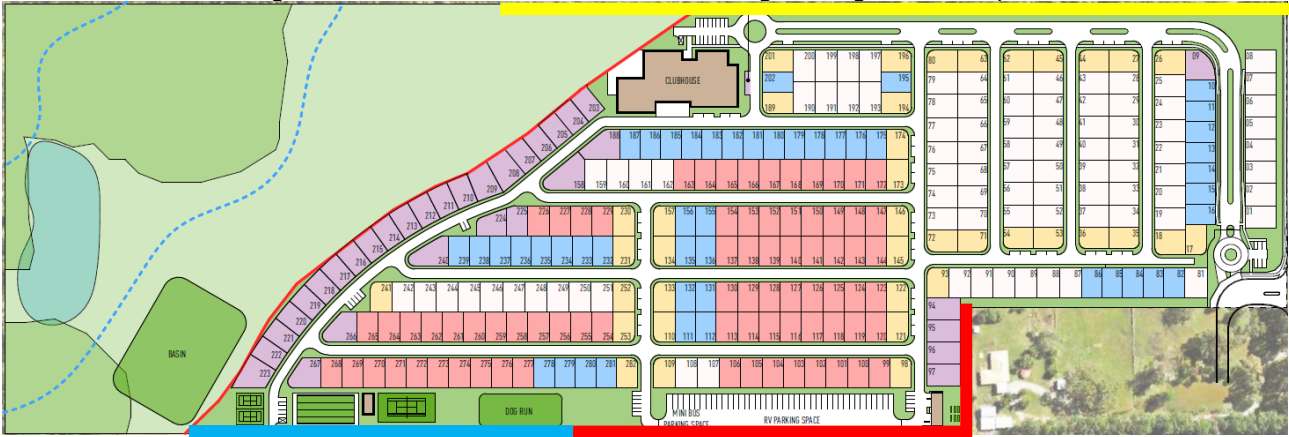
Compliance is predicted at St Philomena School on the condition the recommendations in Section 8 are implemented.

8. Recommendations

8.1 Acoustic Barriers Option 1 – Neighbouring Lots Developed

If neighbouring lots are ever developed for residential land uses, we recommend the acoustic barriers detailed in Figure 3 are constructed to the height and extent shown. The barriers shall be constructed using materials that achieve a minimum surface density of 10kg/m². Suitable materials may include 16mm thick lapped timber (minimum 40% overlap), 10.38mm laminate glazing, masonry, 9mm fibre cement sheeting, Hebel, 15mm Perspex, 16mm plywood, or other material which satisfy the minimum surface density requirement. The barrier shall be constructed to the specified height above the finished ground level. A combination of earth mounding, retaining wall and acoustic barriers is acceptable to achieve the height requirements.

Figure 3: Recommended Acoustic Barriers – Neighbouring Lots Developed

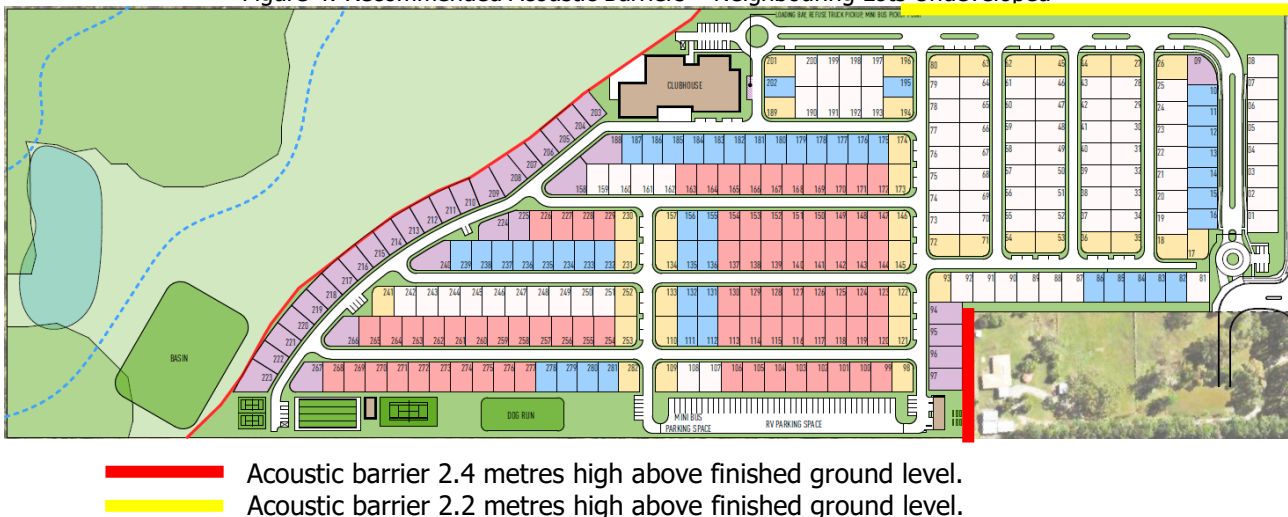


- Acoustic barrier 2.4 metres high above finished ground level.
- Acoustic barrier 2.6 metres high above finished ground level.
- Acoustic barrier 2.2 metres high above finished ground level.

8.2 Acoustic Barriers Option 2 – Neighbouring Lots Undeveloped

Based on neighbouring lots being undeveloped, acoustic barriers are recommended to be constructed to the height and extent shown in Figure 4. The barriers shall be constructed using materials that achieve a minimum surface density of 10kg/m². Suitable materials may include 16mm thick lapped timber (minimum 40% overlap), 10.38mm laminate glazing, masonry, 9mm fibre cement sheeting, Hebel, 15mm Perspex, 16mm plywood, or other material which satisfy the minimum surface density requirement. The barrier shall be constructed to the specified height above the finished ground level. A combination of earth mounding, retaining wall and acoustic barriers is acceptable to achieve the height requirements.

Figure 4: Recommended Acoustic Barriers – Neighbouring Lots Undeveloped



8.3 Onsite Activities

8.3.1 Onsite Activities - Monday to Saturday

Based on the predicted noise levels and subjective assessment of the site and surrounds for Monday to Saturday, noise impacts at the receiver locations are predicted to comply with the assessment criteria on the condition the following management plans are implemented:

- Recreational courts including the pickleball, lawn bowls and tennis court shall be limited to the day and evening periods, between 7am and 10pm.
- The dog run shall be limited to the day and evening periods, between 7am and 10pm.
- Outdoor dining associated with the clubhouse shall be limited to the day and evening periods, between 7am and 10pm.
- The workshop shall be limited to the day and evening periods, between 7am and 10pm. All workshop doors and windows are to be closed during operation.
- Deliveries and waste collection shall be limited to the daytime period, between 7am and 6pm.

8.3.2 Onsite Activities - Sunday

Based on the predicted noise levels and subjective assessment of the site and surrounds for Sunday, noise impacts at the receiver locations are predicted to comply with the assessment criteria on the condition the following management plans are implemented:

- Recreational courts including the pickleball and tennis courts shall be limited to the daytime period, between 7am and 6pm.
- Lawn bowls shall be limited to the day and evening periods, between 7am and 10pm.
- The dog run shall be limited to the day and evening periods, between 7am and 10pm.
- Outdoor dining associated with the clubhouse shall be limited to the day and evening periods, between 7am and 10pm.
- Activities within the clubhouse shall be limited to the day and evening periods, between 7am and 10pm.
- The workshop shall be limited to the daytime period, between 7am and 6pm. All workshop doors and windows are to be closed during operation.
- Deliveries and waste collection shall be limited to the daytime period, between 7am and 6pm.

8.4 Workshop Construction

8.4.1 Glazing

The minimum glazing treatments presented in Table 16 are required to comply with the following:

- The minimum glass thickness specified shall not be reduced regardless of the R_w performance of the glass unless the glazier can provide a specific (non-generic) NATA Test report proving the proposed glazing system complies (the test report must be based on the same configuration proposed for the development). Note an estimation or calculated performance will not be accepted.
- If compliance cannot be achieved with the minimum R_w ratings, the glazing system shall be upgraded until compliance is achieved.
- Glazing specified with acoustic seals requires a seal that has been tested with a glazing system or door to achieve an R_w rating in accordance with AS/NZS ISO 717.1, mohair seals are not acceptable.
- The glazier shall provide NATA test reports on request to verify compliance with the minimum R_w ratings. Generic reports are not acceptable.

Table 16: Workshop Glazing Treatments

Location	R_w Ratings			Glazing Thickness	Acoustic Seals
	Wall	Roof	Glazing		
Workshop	35	35	31	6.38mm	Yes

8.4.2 Wall Construction

The wall construction recommendations are included in Table 17 below. Note that these are not the only allowable methods of construction for the development, and alternative constructions to achieve the required R_w ratings may also be provided.

Table 17: Workshop Wall Construction

Wall R_w	Minimum Wall Treatments
35	Masonry veneer wall at least 110mm thick, 90mm timber studs at 600mm centres, 20mm gap, 10mm plasterboard internal. OR 6mm fibre cement sheeting or sheet metal external, 90mm timber studs at 600m centres, 75mm glasswool insulation (11kg/m ³) or equivalent, 13mm plasterboard internal.

8.4.3 Roof/Ceiling Construction

The roof/ceiling construction recommendations are included in Table 18 below. Note that these are not the only allowable methods of construction for the development, and alternative constructions to achieve the required R_w ratings may also be provided.

Table 18: Workshop Roof Construction

Roof R_w	Minimum Roof Treatments
35	Sheet metal roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling cavity.

8.4.4 Entry Doors

Table 19: Workshop Entry Door Construction

Door R_w	Minimum Workshop Entry Door Construction
28	Fixed so as to overlap the frame or rebate of the frame, constructed of – (i) wood, particleboard or blockboard not less than 33mm thick; or (ii) compressed fibre reinforced sheeting not less than 9mm thick; or (iii) other suitable material with a mass per unit area not less than 24.4kg/m ² ; or (iv) solid core timber door not less than 35mm thick fitted with full perimeter acoustically rated seals.

8.5 Alternative Ventilation

We recommend that the proposed workshop and clubhouse have the provision for an alternative ventilation system similar to air-conditioning or mechanical ventilation to allow doors and windows to be closed.

8.6 Onsite Mechanical Plant

No information regarding mechanical services was available at the time of the assessment. We recommend that any new mechanical plant is designed to comply with the criteria stated in Section 6 with an assessment by qualified acoustic consultant to be conducted prior to installation.

9. Conclusion

An environmental noise assessment was conducted for the proposed retirement facility located at 76-94 Koplick Road, Chambers Flat. On the condition the recommendations detailed in Section 8 are implemented, compliance is predicted with Logan City Council assessment criteria.

If you should have any queries, please do not hesitate to contact us.

Report Prepared By



David Dadd

Senior Acoustic Consultant (B.Sc. (Env.) MAAS)

acousticworks)))

10. Appendices

10.1 Development Plans

03.01 Architectural Drawings
Master Plan



JAREDPPOLEDESIGN
LEVEL 1 28 ELKWOOD AVENUE
SUNSHINE HILLS QLD 4111 AUSTRALIA
PH: 07 5541 1234
WWW.JPD.COM.AU

Living Gems*

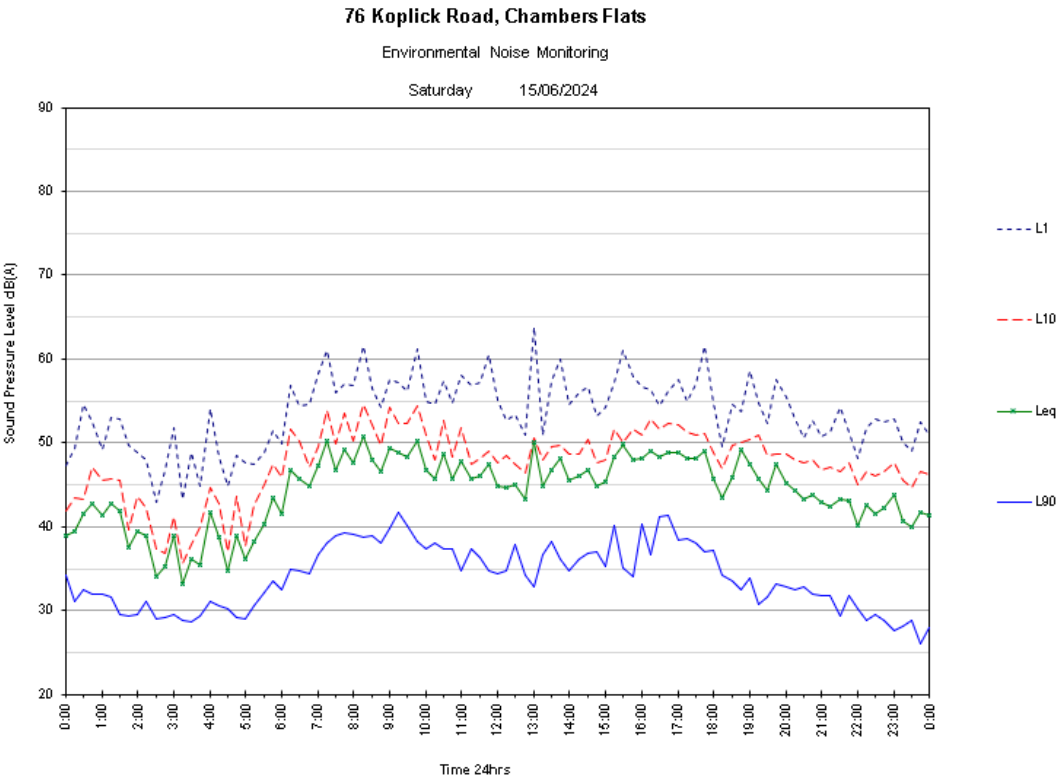
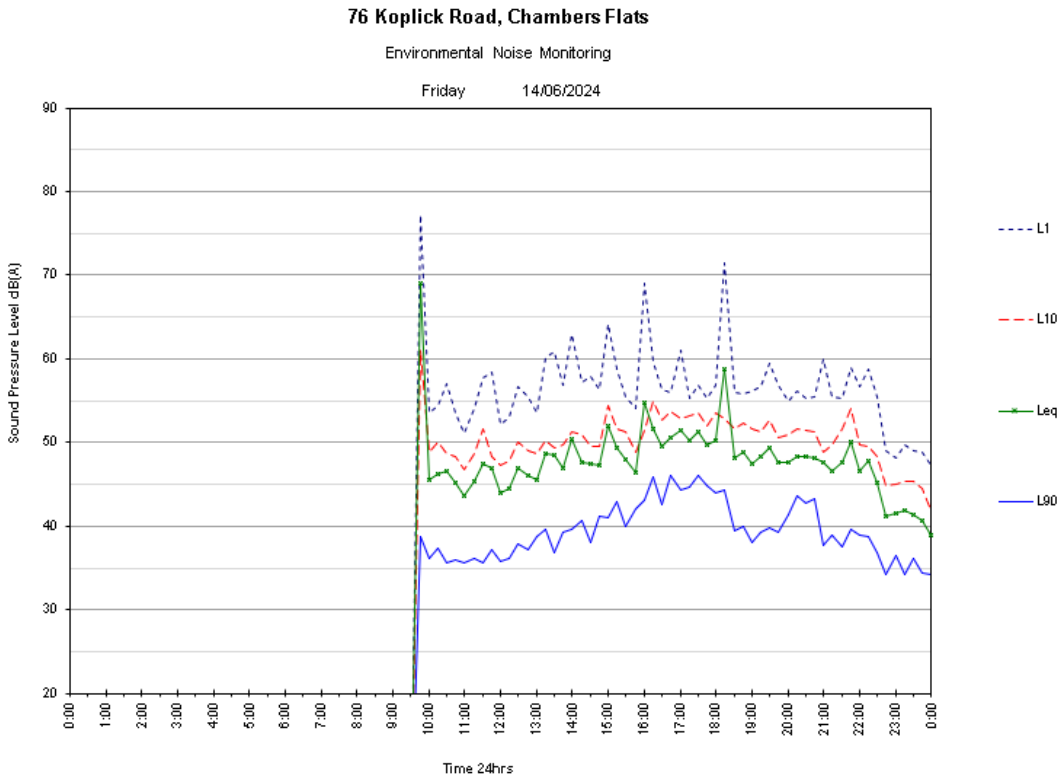
PROJ001 Proposed New Development
No. 76-94, Koplick Road, Chambers Flat, Old
Living Gems

DATE: 15/08/2024
DRAWN: JPD
CHECKED: JPD
SCALE: 1:1000
PROJECT NO: 76-94
SHEET NO: 03.01
SHEET TITLE: Master Plan



POOLE

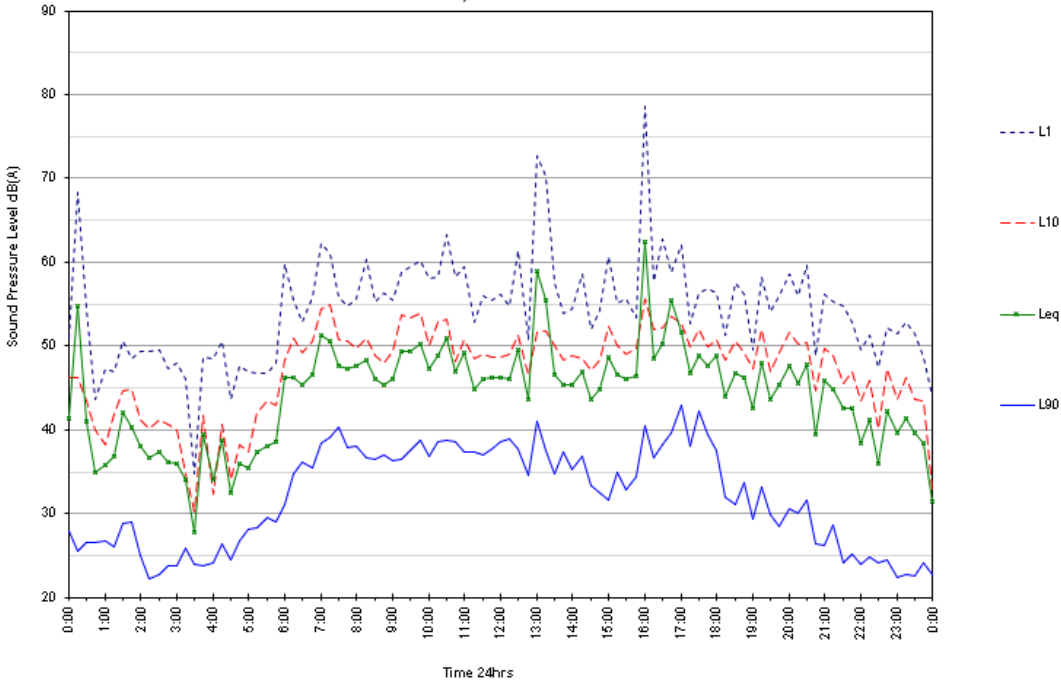
10.2 Noise Monitoring Charts



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

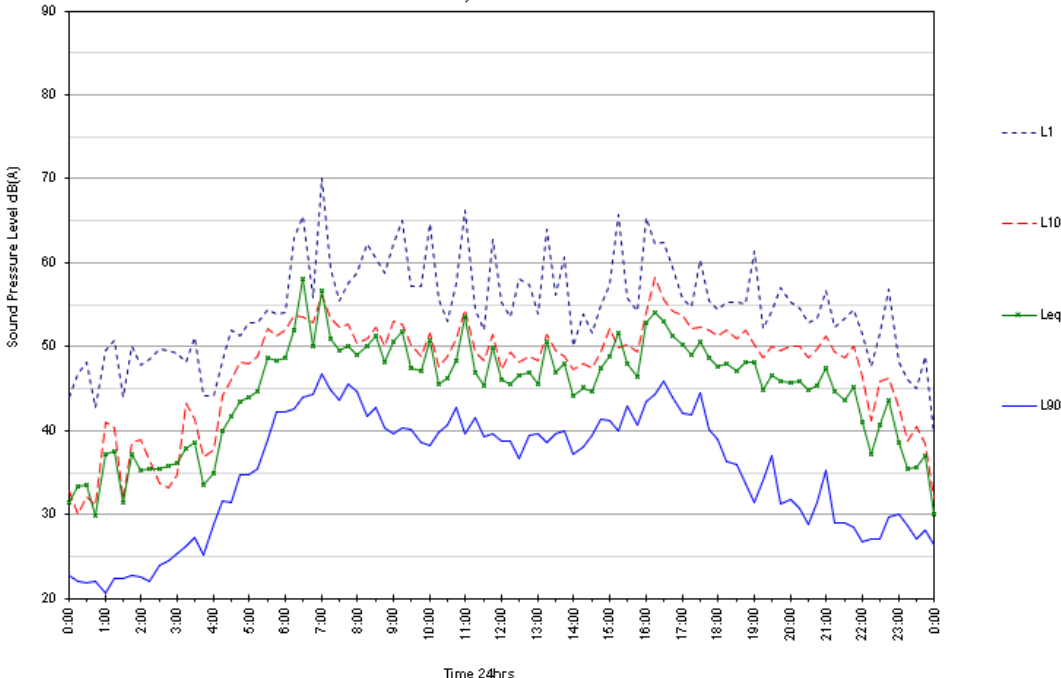
Sunday 16/06/2024



76 Koplick Road, Chambers Flats

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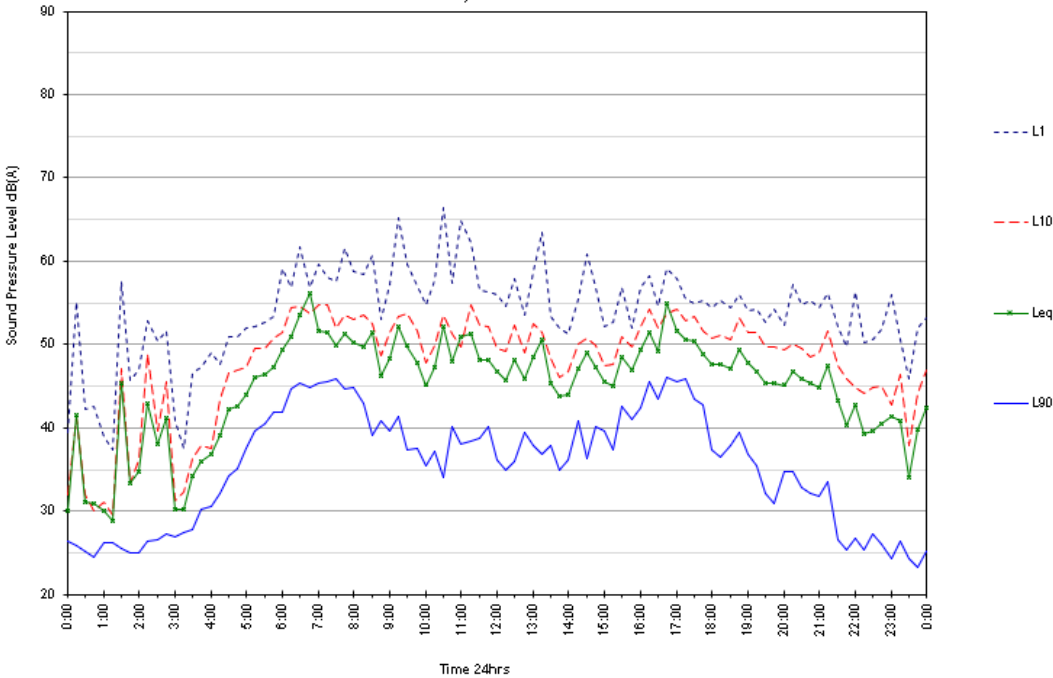
Monday 17/06/2024



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

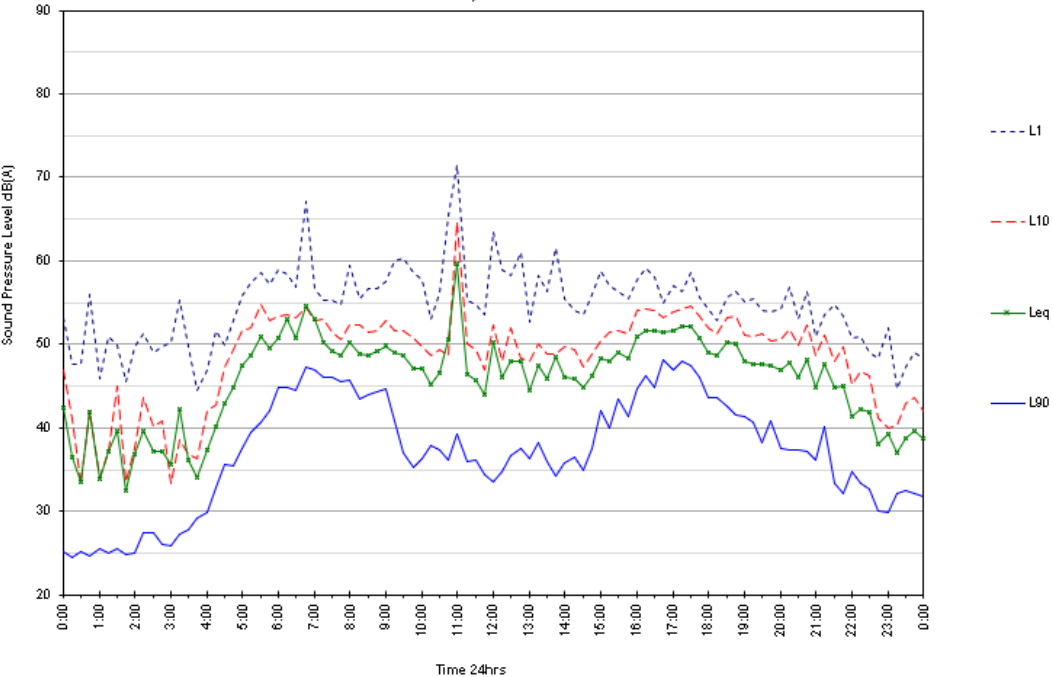
Tuesday 18/06/2024



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

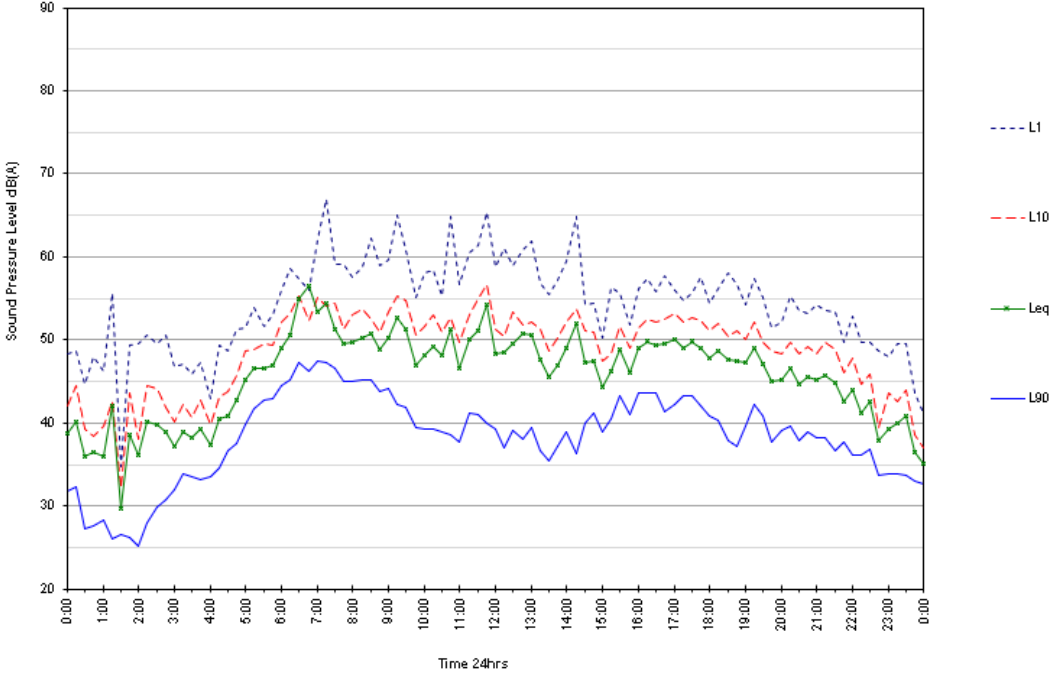
Wednesday 19/06/2024



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

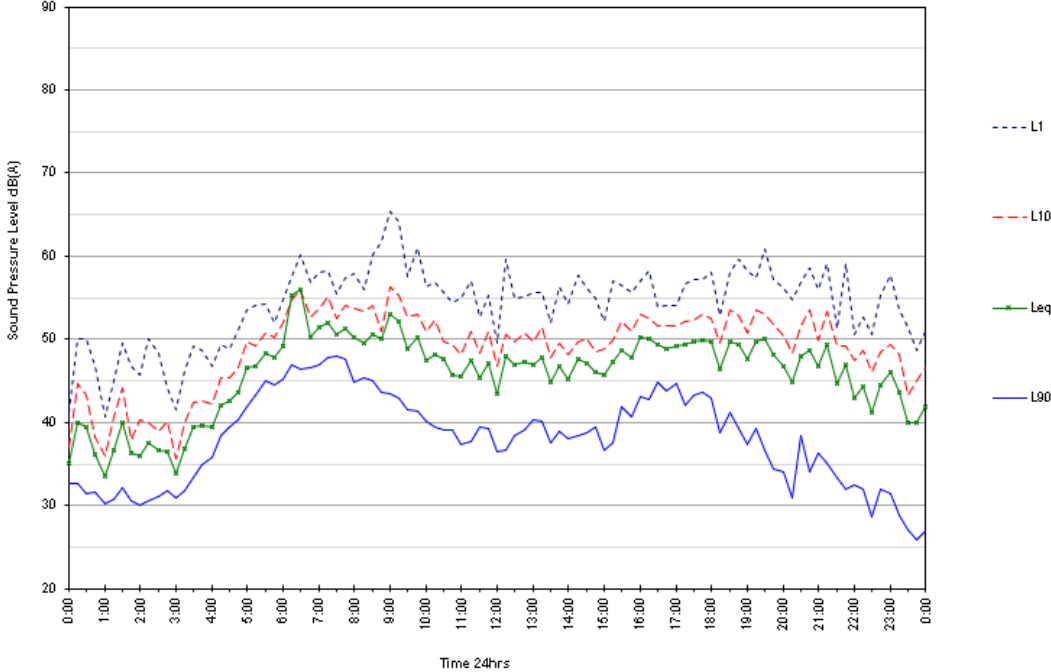
Thursday 20/06/2024



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

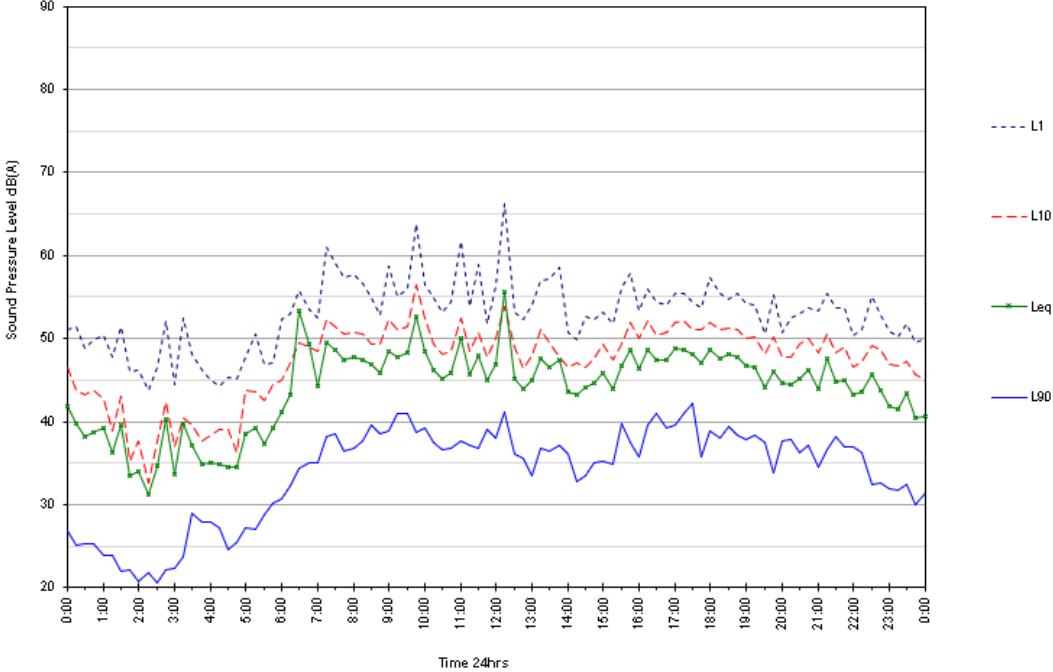
Friday 21/06/2024



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

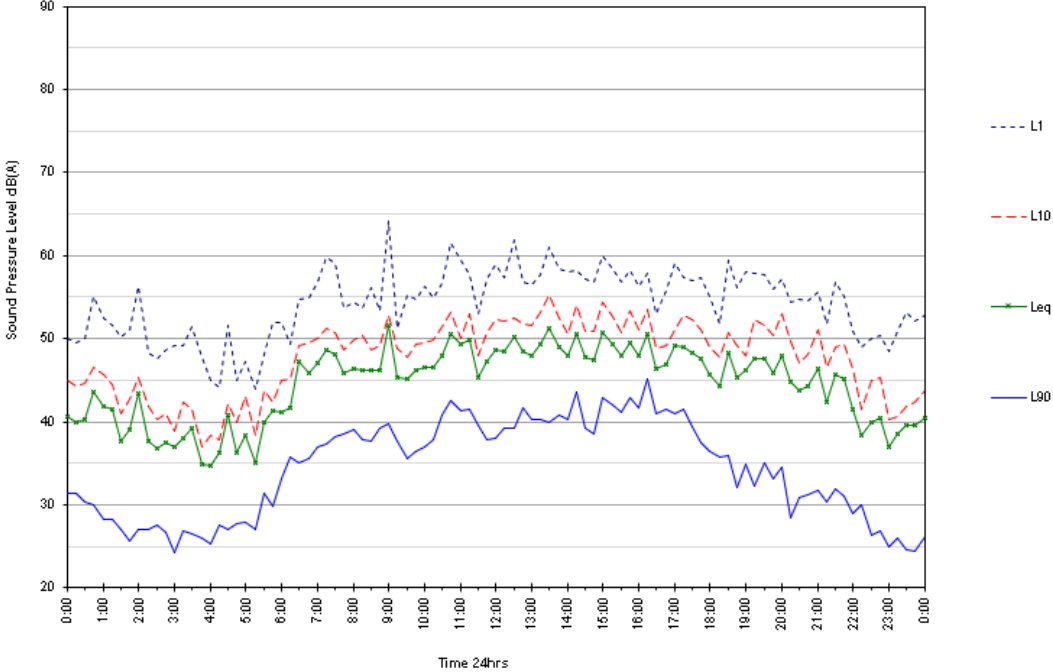
Saturday 22/06/2024



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

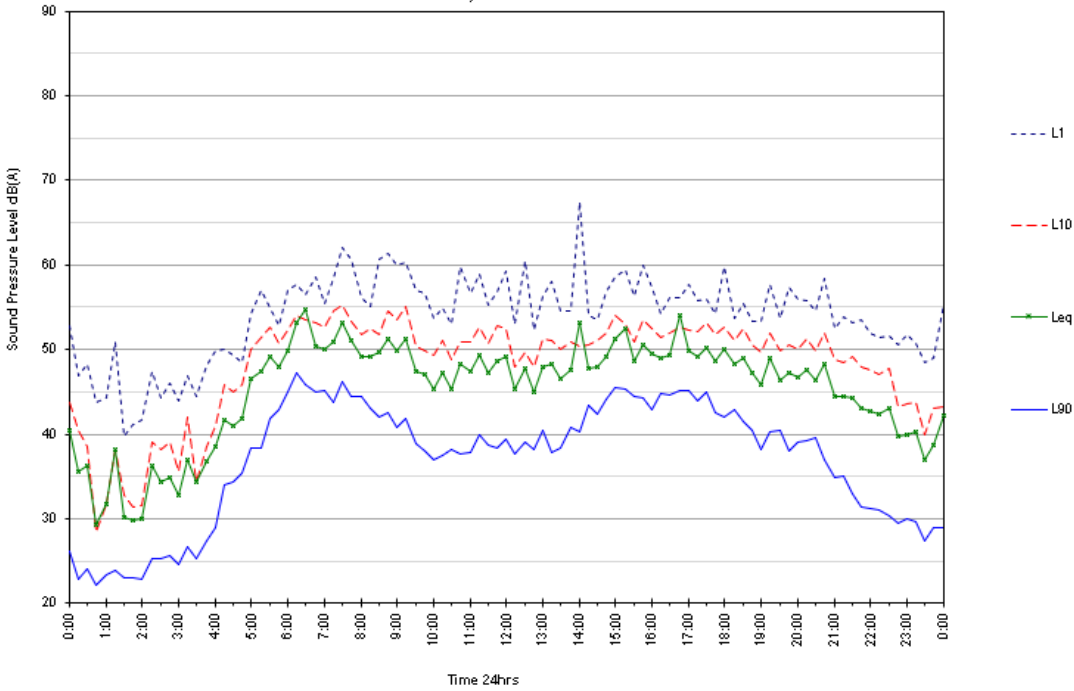
Sunday 23/06/2024



76 Koplick Road, Chambers Flats

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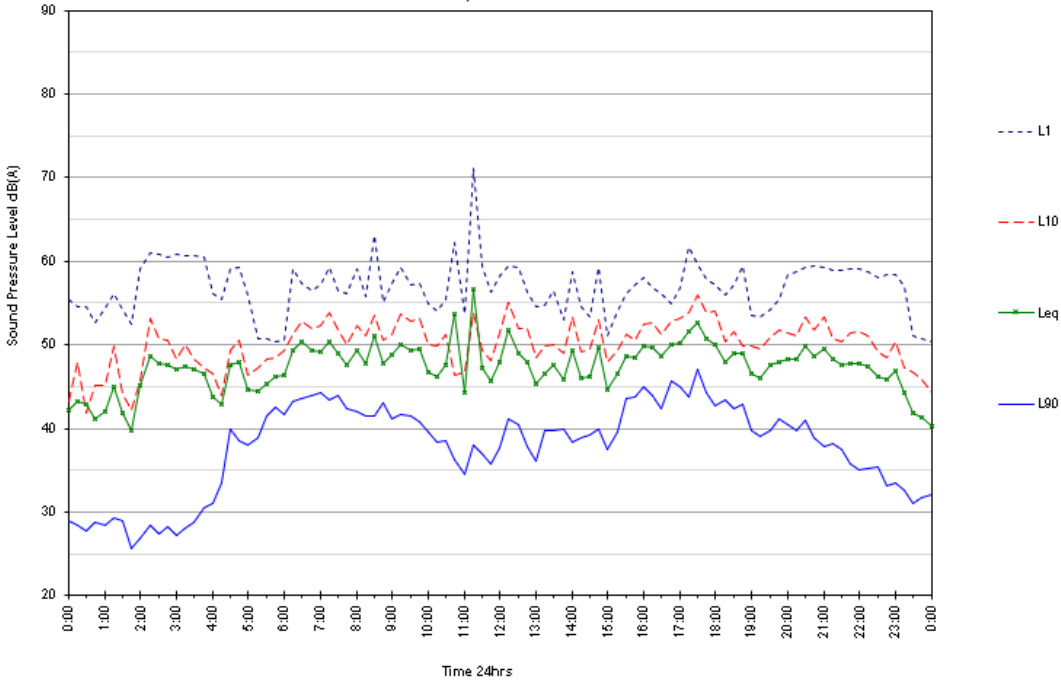
Monday 24/06/2024



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

Tuesday 25/06/2024



76 Koplick Road, Chambers Flats

Environmental Noise Monitoring

Wednesday 26/06/2024

